# Public Utilities

FORTNIGHTLY

Volume L No. 11 November 20, 1952

IMPACT OF THE NORTHERN NATURAL GAS DECISION ON FINANCING
*By Ralph E. Badger*

« »

Public Relations Planning of Utility Management
*By Donald D. Hoover*

« »

New York Is Different
*By A. Bryan Marvin*

« »

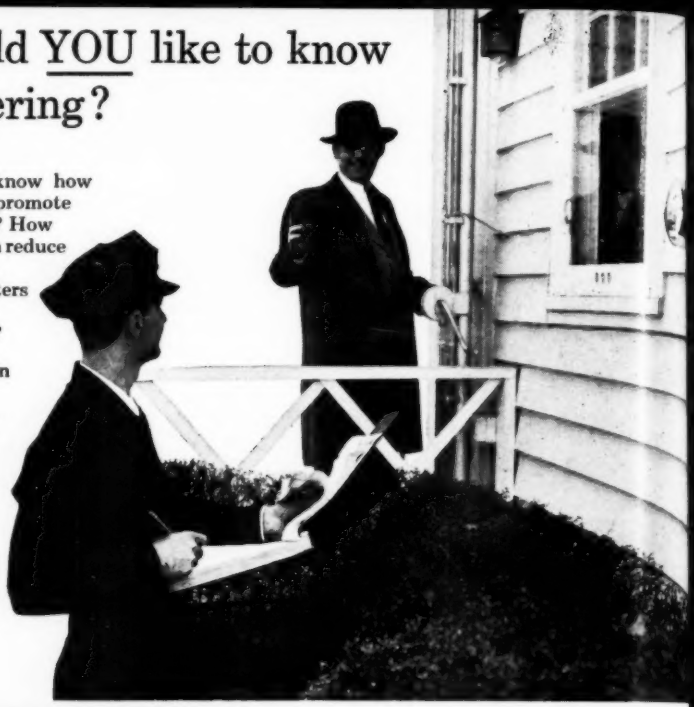
Better Communications for Utilities
*By Russel T. King*

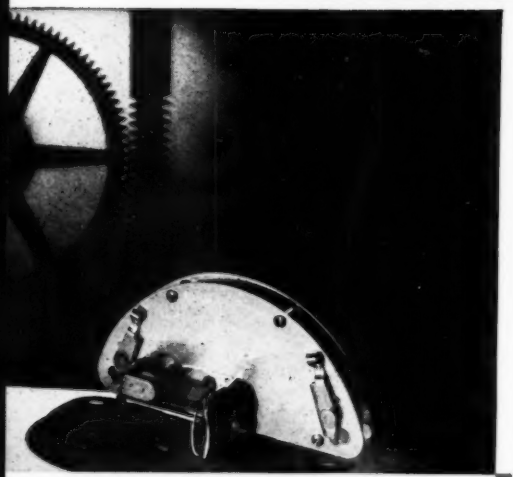
PUBLIC UTILITIES REPORTS, INC., PUBLISHERS

# What would YOU like to know about metering?

Would you like to know how modern meters can promote good public relations? How dependable meters can reduce operating costs? And, how well-designed meters save operating and maintenance expense?

If you are interested in the answers to these and many other questions, get your copy of "Metering for Profit." It's yours for the asking.





**WHAT IS A SHADOWGRAPH?** This illustration, from "Metering for Profit," shows the magnifying device used to assure an exact adjustment of the mesh between the worm spindle of a meter disk and the worm wheel of the register. The use of the shadowgraph is another step to assure that your meters register fully all kilowatthours consumed.

*Only Measured Facts are Known Facts*

SANGAMO ELECTRIC COMPANY

SPRINGFIELD, ILLINOIS

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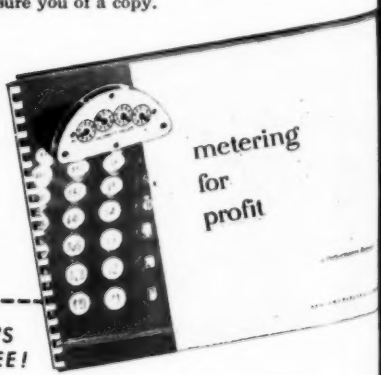


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# Public Utilities FORTNIGHTLY

VOLUME L NOVEMBER 20, 1952 NUMBER 11

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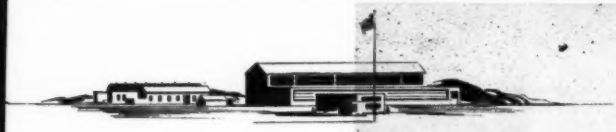

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A practical, long-proved solution to rising construction costs may be found in the B&W Divided-Furnace Boiler. Whether it is a problem of conserving height, width, or both—especially for units with large heat input—B&W's Divided-Furnace design offers remarkable economies. The sketches on the opposite page show typical savings in space for twin-furnace and triple-furnace construction as compared with single-furnace construction.

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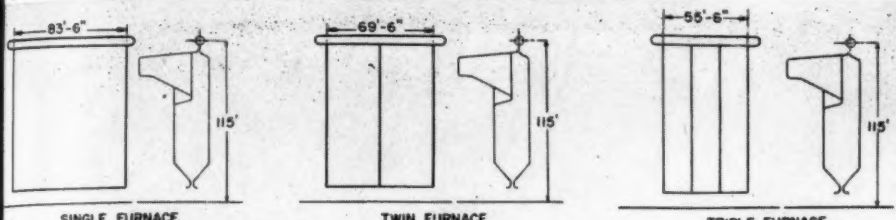
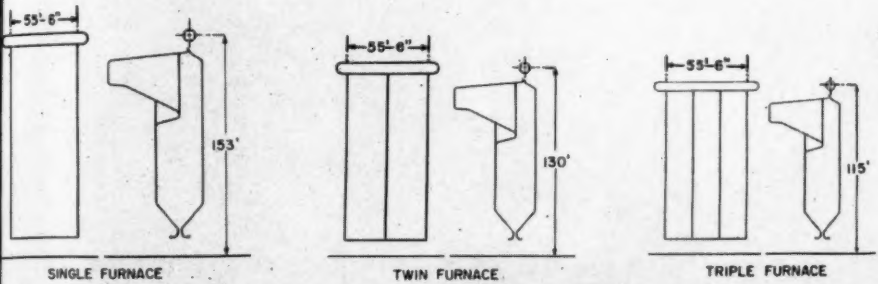



**EFFECT OF DIVISION WALLS ON BOILER WIDTH—KEEPING HEIGHT CONSTANT**




**EFFECT OF DIVISION WALLS ON BOILER HEIGHT—KEEPING WIDTH CONSTANT**

# DFURNACE

Division wall furnace construction is used in combination with other significant achievements of B&W Research and Development, including the Cyclone Furnace, Pressure-Firing, Gas Recirculation, and improved alloys for high steam temperatures. Widely accepted throughout the power industry, these modern B&W advances are making major contributions to more economical and reliable steam generation.

B&W's continuing program of progressive research combined with its broad experience in designing and building boilers with the highest capacities in existing pressure-temperature ranges, assure you of the most efficient and economical solutions to your specific steam generation problems.

**ADVANTAGES OF DIVIDED FURNACE CONSTRUCTION**

- Provides greater cooling area without increasing furnace volume
- Reduces steel and other material costs by keeping boiler and building volume to a minimum
- Lowers furnace construction costs
- Cuts operating costs by reducing slagging in furnace and in convection surface

*Triple* furnace boilers for 1 boiler—1 turbine units of over 200,000 KW capacity are now being constructed

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# Pages with the Editors

IT is most important for public utilities to bear in mind, in the wake of the recent election of Dwight D. Eisenhower to the presidency, that they will not be released entirely from the political pressures and antagonisms which have built up during the past two decades. Obviously, their position will be considerably less subject to the continual harassment which often seemed to have direct White House blessing and encouragement. General Eisenhower's pledge during the campaign to seek a fair and honest partnership of government-business interests to end the jumbled conflict of Federal power policies, is probably the most hopeful development from the standpoint of the electric utilities.

BUT there are obviously serious economic and international prospects ahead. Such strains on the Federal government can cut two ways. On the one hand, it will probably mean less government spending and lending activities, so sharply criticized by Eisenhower. It will probably mean an end to business-baiting activity by antiutility officials of the Federal government.

ON the other hand, a Republican President, taking office after warnings of hard times from the Democrats, is naturally more vulnerable to the hazards of unemployment and business stagnation. The hope of tax reductions remains but a hope. The possibility of a Democratic resurgence in the event of a business recession during the next four years, or even the next two, is a long-range factor to be considered. In short, it behooves public utilities and business generally within the next two to four years to make plenty of hay in the field of public relations and eradicate as much as possible the poison of antiutility agitation of the past twenty years.

DONALD D. HOOVER

RALPH E. BADGER

ALL of which leads up to the solid advice contained in an article in this issue analyzing the importance of public relations planning of utility management (beginning on page 761). It is based on the thesis that government intervention in business has probably reached its peak from the standpoint of intervention in public utility matters. If that is so, it would seem to follow that businessmen should encourage the new President to give business enterprise more incentive to serve the people.

DONALD D. HOOVER, president of Bozell

# What goes on at this Round Table?

• They could be exchanging ideas on new financing . . . discussing the cost of new money . . . hearing an expert appraisal of long-term trends for utilities.

Those present, in addition to the public utility executives, include experts from investment banking institutions, insurance companies, rating agencies—and from numerous other types of financial organizations.

Yes, this is a typical Public Utility "Round Table" at the Irving. Last year alone, 146 representatives from 85 utility companies attended these sessions.

These "Round Tables," now going into their sixth year, are one of the ways we seek to serve the public utility industry. As specialists in this field, we are constantly on the lookout for ways to be of practical help. If your company has an unusual problem, that's the kind of challenge we welcome.

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& Jacobs, Inc., New York city, is the author of this analytical article.

MR. HOOVER'S background is journalism. He has been a reporter, editor, and columnist, and was with the Washington bureau of the Associated Press. While with the *Indianapolis News*, he wrote a series of articles on simplification of the tax structure which won the Pulitzer prize for that paper. He is the author of a book on journalism (1931) and trustee of the endowment fund of The Quill of Sigma Delta Chi. During World War II HOOVER served on the staff of Generals Eisenhower, Alexander, and MacArthur and was decorated with the Legion of Merit and other honors.

* * * *

THE well-qualified author of the first part of a 2-part analysis, entitled "Impact of the Northern Natural Gas Decision on Financing" is DR. RALPH E. BADGER, an associate of Standard Research Consultants, Inc., New York city. DR. BADGER received his PhD from Yale ('21) and later became professor of economics at Brown University, specializing in investments and finance. In the early thirties he was executive vice president of the Union Guardian Trust Company in Detroit and later president of Investment Counsel, Inc., a position which he still occupies. He is the author of a number of works in the field of finance.

RUSSEL T. KING

A. BRYAN MARVIN

A. BRYAN MARVIN'S article "New York Is Different," beginning on page 772, is a humorous account of how the New York city utility clientele provides special problems and difficulties. MR. MARVIN works with the press information and public relations bureau of Consolidated Edison Company of New York. Educated at St. Marks and Yale, MR. MARVIN found his way into the utility industry after two years' service as a newspaper reporter with the *Stamford* (Connecticut) *Advocate*.

* * * *

RUSSEL T. KING, an AT&T Company engineer at headquarters, 195 Broadway, New York city, can look back on twenty-three years' experience in the telephone business. A graduate of Dickinson College in 1928, his first job was as commercial service representative for the Bell Telephone Company of Pennsylvania in Pittsburgh. In 1943, he joined AT&T's commercial engineering group. In his present assignment MR. KING assists the Bell system companies with their commercial service problems and has charge of engineering staff specializing in such work.

THE next number of this magazine will be out December 4th.

The Editors

**ON THE SPOT**

## about how to increase typing production?

*You won't be after a "production plus" test**

*on the new* Electri-conomy

Yes, you'll really be able to "get off that spot" in a hurry once the power-driven Remington Electri-conomy starts increasing your typing production. Letters, reports, and carbons (15 or more in one typing) flow from the Electri-conomy. In addition, its handsome, uniform typescript makes all work distinctive . . . its amazing electric ease of operation boosts typists' morale.

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# Coming IN THE NEXT ISSUE

★

### DO WE NEED MORE FEDERAL POWER AUTHORITIES?

Federal power authorities are indistinguishable, according to the Honorable Len Jordan, governor of Idaho, in practically every instance from Federal valley authorities. He believes that those who are urging new Federal agencies are inclined to mask their real desire to take over all the power supply in a given region under the guise of general regional development. At the same time, the Federal agencies attempt to increase their control of a river system beyond the realm of power production. Governor Jordan's article is an answer to the question in its title.

### AUTOMATIC ADJUSTMENT CLAUSES IN GAS RATE SCHEDULES. PART I.

This article on rate adjustment clauses for gas should be of especial interest at a time of inflation, particularly in view of the possible action by the Office of Price Stabilization on escalator clauses. Edwin Fleischmann, consulting engineer, has written a 2-part article on this timely topic. There have been references and rulings relating to escalator clauses, but this article describes the different types in a very clear and compelling fashion.

### DETERMINATION OF FAIR RETURN REQUIREMENTS FOR NATURAL GAS COMPANIES

In an earlier article, Dr. Ralph E. Badger discussed the impact of the Northern Natural Gas Case and allied decisions of the Federal Power Commission on natural gas company financing. In this the concluding instalment, Dr. Badger goes into the question of determining the fair rate of return required for natural gas companies. He urges substitute measures for any attempt to gauge the cost of common stock capital in a growing industry by "spot" earnings-price ratios.

### FREE FLOOD CONTROL BY UTILITIES ON WISCONSIN RIVERS

We often hear advocates of large-scale government multipurpose projects repeat the statement that such programs by their very nature are too large and too diverse in their objectives to be conducted by private business corporations. The implication is that if the over-all program must be conducted by the government in default of private investment, the utility phases must likewise remain under government control and operation. Professor Arno T. Lenz, of the University of Wisconsin, gives us an interesting reverse point of view on this subject. It is not only a theory but a fact that Wisconsin utilities, including co-operatives, are performing governmental type services without charge as part of their hydroelectric development.

★

**Also . . .** ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***

# There's a faster way!

Going through a lot of motions and hand-waving today is not only exhausting, but mighty costly.

***In utility offices . . .***

We have in mind, specifically, the sensible method of compiling bill analyses.

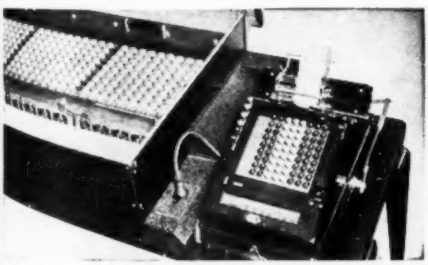
Instead of acquiring, training and supervising a large clerical force to analyze thousands of consumers' bills, many utilities all over the country simply turn over the job to us.

Our experienced staff, plus our specially designed Bill Frequency Analyzer machines, can turn out the job for you in a few days, and the cost is only a small fraction of a cent per item.

Let us tell you more in detail about this accurate and rapid method of obtaining a picture of your consumers' usage situation. Write today.

*P.S. If you use punched cards for billing, we are also equipped to make your analyses from them.*

***SAVES 50% IN TIME AND MONEY***



This Bill Frequency Analyzer—developed especially for utility usage data—automatically classifies and adds in 300 registers—in one step.

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# Remarkable Remarks

*"There never was in the world two opinions alike."*
—MONTAIGNE

---

DANIEL WEBSTER

"Liberty exists in proportion to wholesome restraint; the more restraint on others to keep off from us, the more liberty we have."

KENNETH J. BIDWELL
*Assistant United States manager, London Assurance.*

"We have to recognize at the outset that public relations means selling—selling an idea as well as a product and keeping both of them sold."

L. L. COLBERT
*President, Chrysler Corporation.*

"Profits are not something withheld and hoarded. They are spent. They buy new machinery, build new plants, develop new products, create new jobs."

HERBERT HOOVER
*Former President of the United States.*

"The engineers and the scientists can save America again—if their minds and spirits are kept free from the stifling of government burdens and bureaucracy."

HARRY FLOOD BYRD
*U. S. Senator from Virginia.*

"I do not concede that [the American system] should be scrapped for Socialism in welfare state clothing which never brought greatness, happiness, or security to any nation."

JAMES S. KEMPER
*Chairman, Lumbermen's Mutual Casualty Company.*

"This nation cannot remain strong for long by tolerating politicians of any party who give lip service to free enterprise and at the same time support policies that lead to Socialism."

LAURENCE F. LEE
*President, Chamber of Commerce of the United States.*

"It is the risk-taker who keeps Capitalism alive and growing. Bottle up Capitalism, and you have corked the effervescence of our competitive economy. It is the beginning of the end."

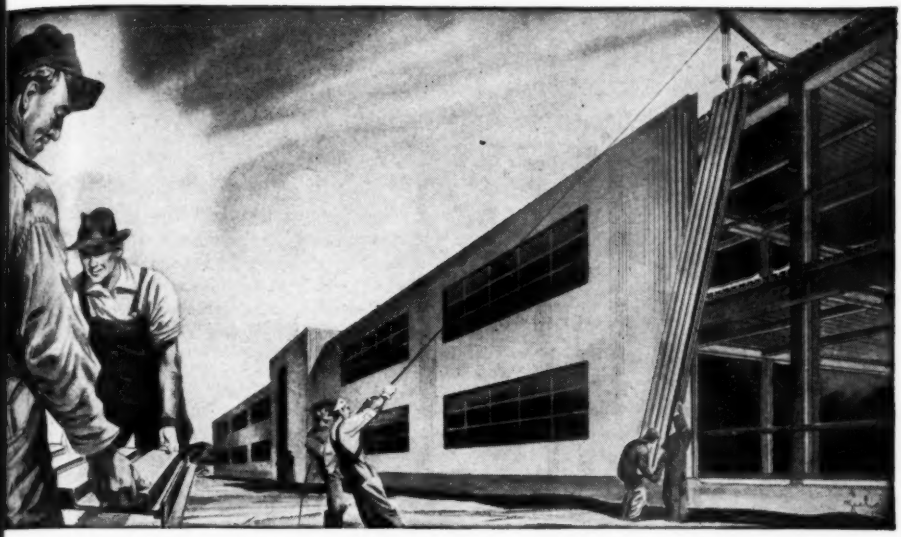
G. METZMAN
*Chairman of the board, New York Central System.*

"Business cannot plausibly or effectively defend itself against excessive government regulation while it holds back its support of measures to correct government mistreatment of the railroads."

NEILL DAVIS
*Executive vice president, California Savings & Loan League.*

"The Federal government, through its bureaus, seems to be on a subtle campaign to reduce all of us to the lower income bracket, and thus be more vulnerable to their public housing propaganda."

# what we really make is time!



## it's faster to hang a wall than to pile it up . . .

Little blocks, say 2" x 4" x 8", don't pile up very fast.

We hang walls up in sizable panels.

And that is an easy way to understand why Robertson's real product is *time*.

We make walls that are hung in place. We make them complete with insulation when the panels are delivered. We engineer them piece by piece in advance at the factory. We put expert crews on the job to place them.

We make time, now, when time is the essence.

We save days and weeks in finishing a building for *use*, because years have been put into the development of these unique skills.

*Quick* is the word we practice.

Q-Panels are fabricated from Galbestos, aluminum, stainless steel, galvanized and black steel in lengths up to 25'.

Q-Panels, 3" in depth with 1⅛" of incombustible insulation, have a thermal insulation value superior to that of a 12" dry masonry wall with furred plaster interior. A single Q-Panel with an area of 50 sq. ft. can be erected in nine minutes with a crew of only five men, and twenty-five workmen have erected as much as an acre of wall in three days.

Q-Panel construction is quick, dry, clean, and offers an interesting medium of architectural expression.

## H. H. ROBERTSON CO., PITTSBURGH, PA.

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Offices in 50 Principal Cities
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EDITORIAL STATEMENT
*New York Journal American.*

". . . a bankrupted United States would be a cheap victory for Communism—much cheaper than the total war for which we are arming and which Soviet Russia may never fight in the way that we anticipate."

HENRY H. HEIMANN
*Executive secretary, National Association of Credit Men.*

"[Business should not] acquiesce in being controlled and regulated when there seems to be no need of it. It's time to challenge these charlatans and it is business management that must show courage to stand against them."

WILLIAM C. MULLENDORE
*President, Southern California Edison Company.*

"The great nonphysical or spiritual forces of individual initiative and inventiveness, the stimulation of the open pathway to reward in proportion to achievement—all the traditional freedoms which were established under limited government and American individualism—these were the sources of American productivity and economic progress."

CRAWFORD H. GREENEWALT
*President, E. I. du Pont de Nemours & Company.*

"To industry freedom means simply an absence of artificial restraints upon its natural, lawful functions. It means the right to make its own decisions on matters properly within its province. It means the right to offer sufficient incentives to its people—stockholders, employees, and customers—to insure satisfactory continuity of usefulness."

*Excerpt from "The Guaranty Survey."*

"The keystone of the inflationary structure is the cost of government. In the last seven fiscal years the Federal government has extracted from the people $50 billion more in taxes than was collected during the entire previous history of the United States, including the second World War. Yet this staggering tax burden of $308 billion has fallen $17 billion short of meeting expenditures."

DOUGLAS MACARTHUR
*Retired General, U. S. Army.*

"By the imposition of oppressive and arbitrary controls upon business and production; by exhaustive taxation which withers initiative, reduces energy, and, in the end, destroys the spirit of enterprise; by spendthrift policies which stagger the imagination; by discouraging adherence to the principle of private ownership of property, they have established the prerequisites to a socialistic or even later a communistic state."

FRED CARPI
*Vice president, Pennsylvania Rail oad.*

"The railroad industry and the petroleum industry are both striving for the economic freedoms which we need in order to serve our customers well. The difference is that in most cases you are trying to preserve some of your freedoms and we are trying to regain some of ours. May I suggest that possibly the best guaranty you oil men could have that more freedom will not be taken away would be a change in the tide of regulation of America's most regulated industry?"

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**Ask servicemen** why they like International Trucks. You'll get many answers.

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Whatever their reasons, they all agree that these great trucks are engineered to make the serviceman's job more efficient. See the nearest International Dealer or Branch soon.

**INTERNATIONAL HARVESTER COMPANY • Chicago**

**Look at these International features:**

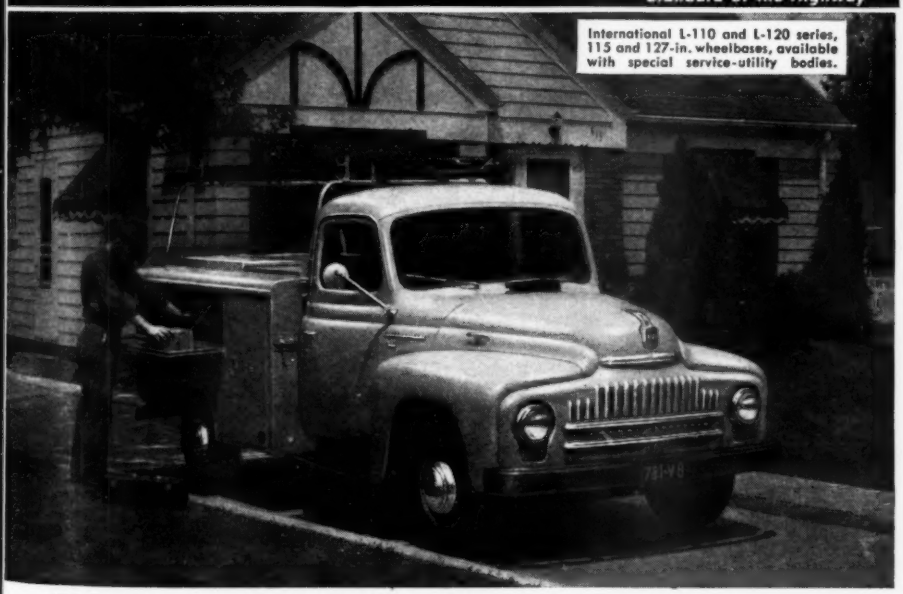
- Silver Diamond valve-in-head truck engines are rugged, packed with extra power. Engineered to save you plenty on operating and maintenance costs.
- New green-tinted, non-glare safety glass available in the Comfo-Vision Cab. One-piece full-vision windshield.
- Super-steering—more positive control. Wider front axles make possible full 37° turning angle for easier handling and maneuverability.
- Wide variety of light-duty models—½, ¾, and 1-ton sizes—GVW's from 4,200 to 8,600 lbs. 115, 127, and 134-in. wheelbases. Pickup, panel, stake, and many other types of bodies.

International Harvester Builds McCormick Farm Equipment and Farmall Tractors...Motor Trucks...Industrial Power...Refrigerators and Freezers

*Better roads mean a better America*

**INTERNATIONAL TRUCKS**

*"Standard of the Highway"*

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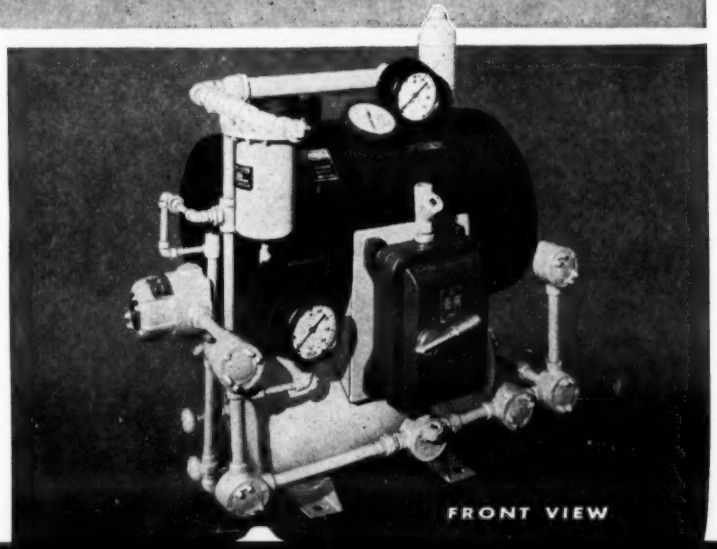
# Now... the improved BLAW-KNOX *Portable* FOGGER

## FOR LOCAL DISTRIBUTING POINTS

**Just the size for your smaller City Gate Stations and District Regulator Stations**

And like the larger Blaw-Knox Electroil Fogger, this improved model is a *safe, explosion-proof, shop-assembled* unit which solves many natural gas distribution problems.



FRONT VIEW

The Portable Fogger produces a

*assembled* unit which solves many natural gas distribution problems.

The Portable Fogger produces a stable oil fog in the gas stream . . . safely, automatically and with minimum attendance or supervision. Being a shop-assembled unit it is ready to be connected "as is" to gas and electric power lines quickly and easily. For comprehensive data—
**Write for Bulletin No. 2353.**

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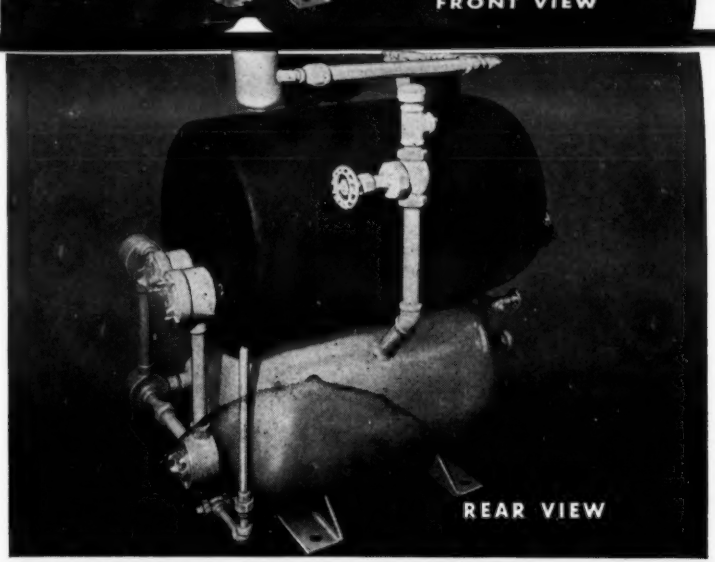
2. **Easy to operate.**
3. **Temperature control is completely safe and automatic.**
4. **Electrical equipment is explosion-proof.**
5. **It will produce a stabilized fog.**
6. **Wet down existing dust deposits.**
7. **Moisten leather diaphragms.**
8. **Coat inside of pipe with a protective oil film.**




GAS EQUIPMENT DEPARTMENT

**BLAW-KNOX DIVISION**

OF BLAW-KNOX COMPANY

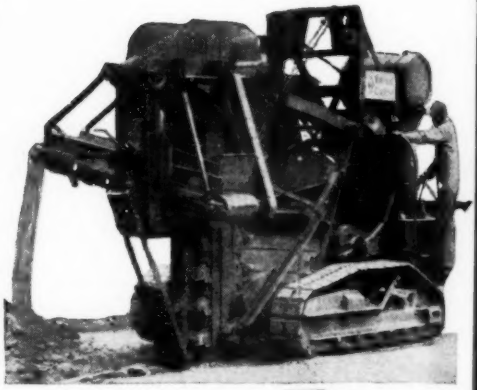
2110 FARMERS BANK BUILDING
PITTSBURGH 22, PA.

**FOR LOWEST COST PER FOOT OF TRENCH IN ALL SEASONS**

# Barber-Greene

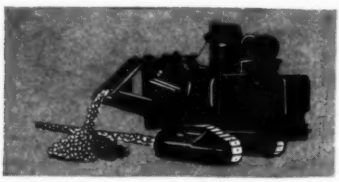
**VERTICAL BOOM**

# HEAVY DUTY DITCHER



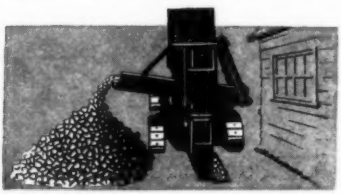
The B-G 44-C is winning more friends among utilities every day because it's saving time and money on every job.

Why? Because with its Vertical Boom, the 44-C digs in any soil at any time of the year . . . digs right up to sidewalks, foundations, underground pipe . . . digs all the ditch, leaving no ramp to remove by hand . . . digs clean and straight up to 24" wide, 8'3" deep.

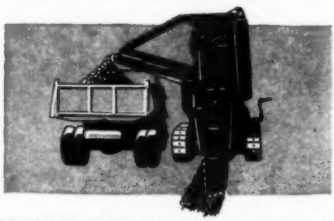


**GAS, WATER, SEWER DISTRIBUTION** — ideal for public utility use. Works in any weather, through frozen ground, asphalt pavement, clay or wet gumbo to accurate depths and widths. Vertical Boom jumps underground pipe, sidewalks, reducing hand labor to minimum.

**UNCOVERING JOINTS** — wasting no digging effort, the 44-C cuts straight down to joints through toughest formations with minimum openings, thus reducing repaving costs. Sensitive overload release, precision cutting and accurate control make this the practical machine.



**CRAMPED QUARTERS** — offer no operating difficulties with the compact 44-C; rapid maneuvering, full crawler traction, narrow over-all width and close-hung Vertical Boom allow ditching close to walls, foundations, etc.



**DISCHARGE TO TRUCK** — on some city contracts excavated material must be removed immediately. With the 8'3" boom on the 44-C, the discharge height is sufficient to load spoil directly to truck, depending on depth of trench. Spoil conveyor discharges to either side.

**FOR FULL INFORMATION SEE YOUR BARBER-GREENE DISTRIBUTOR OR WRITE**

# Barber-Greene AURORA, ILLINOIS

# Now! *a film that shows you...*

***The differences between a regulated public service company—and a non-regulated private industry.***

"The Legend of Dan and Gus" introduces two young brothers to the U. S. business scene, together with the firms they founded—*Dan's Doorknob Company* and *Gus' Gas Company.*

In their own way, Dan and Gus are an American success story. They learn to weather economic cycles, material shortages, competition, expansion crises, and a host of other challenges. They learn first hand that regulated and non-regulated businesses are different, and each has its own problems that must be met in different ways.

If you would like to view "The Legend of Dan and Gus" or desire further information about it, write on your letterhead to: Director of Information, The Columbia Gas System, Inc., 120 East 41st Street, New York 17, N. Y.

he Legend of Dan and us" is a 30-minute mm color and sound otion picture, combin- g animation and live otography.

COLUMBIA GAS SYSTEM

**COLUMBIA GAS SYSTEM**

# 2500 P. S. I.

THREE SERIES OF

# MERCOID DA PRESSURE CONTROLS

***PROVIDE THE SENSITIVITY YOUR APPLICATION REQUIRES***

- **FULLY ADJUSTABLE AS TO RANGE AND SENSITIVITY**
- **VISIBLE CALIBRATED DIAL**
- **BOURDON TUBE OPERATED**
- **MERCOID SEALED MERCURY CONTACT**

There is a Mercoid DA Pressure Control for your particular application in pressures varying from 30" vacuum to 2,500 p.s.i. (available in many different circuit arrangements).

Apart from bourdon tube operated pressure controls, Mercoid offers a line of bellows and diaphragm actuated controls.

Explosion-proof and weather-proof cases are adaptable to practically all series.

If you have an automatic control problem involving the control of pressure, temperature, liquid level or mechanical movement, write for Catalog No. 700A.

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# MAJOR JOBS

## FOR QUALIFIED, YOUNG, AMBITIOUS UTILITY PERSONNEL

We have been authorized to present fully qualified candidates for the following positions:

1. **ADMINISTRATIVE VICE PRESIDENT** in 38-45 year age bracket. Qualified to coordinate operating, commercial, and accounting functions and administer company's organization and operations. Operating and/or engineering experience essential. Familiarity with rate case preparation and presentation, accounting, and sales promotion desirable. Preferred consideration given to those with combination experience, such as electric-gas, telephone-gas, electric-water, telephone-water. Eastern location.
   **Starting salary range (dependent on qualifications) .....$13,500-$20,000**

2. **VICE PRESIDENT, OPERATIONS,** in 38-45 year age bracket. Qualified to assume full, final responsibility for operations, engineering and construction. Operating and engineering experience absolute requirement; familiarity with rate analysis, labor negotiations, analysis of manpower requirements desirable. Sufficient experience, knowledge and background to handle all operating and engineering problems of diversified utilities company. Multi-utility experience essential, such as combination electric-gas, telephone-water, etc. Eastern location.
   **Starting salary range (dependent on qualifications) .....$12,000-$15,000**

3. **TREASURER** in 35-40 year age bracket. Qualified to supervise and administer all accounting and quasi-accounting, commercial problems. Experience in utility accounting, including familiarity with F.P.C. and F.C.C. systems, and also in utility financial budgeting and use of budgetary methods for control, essential. Knowledge of systems and methods development and rate case preparation desirable. Eastern location.
   **Starting salary range (dependent on qualifications) .....$10,000-$12,500**

4. **GENERAL SALES MANAGER** in 35-45 year age bracket. Qualified to direct, from a central administrative office, sales and load building program for geographically separated electric, gas, and telephone properties. Experience in actual selling and in building of sales forces absolute requirement. Familiarity with technical bases for competitive selling desirable. Eastern location.
   **Starting salary range (dependent on qualifications) .....$5,000, plus commission arrangement**

Each of the above jobs is with an organization whose fundamental policy is aggressive, efficient and productive business management. General requirements are that applicants must be ambitious, hard working, and interested in a productive association, rather than in only the security of a "civil service" type position.

Successful candidates will have the philosophy that continuing personal benefit and advancement can only result from continuing achievement on behalf of the organization.

Starting salaries within the above ranges will depend upon how closely applicants meet the ideal specifications. Engagements will be premised on improvement in compensation within one year from association, if productive job is done. Pension and insurance benefits are at least competitive.

These jobs are *not* for the chronically discontent. They *are* for those who rebel against advancement based only on seniority or years of service. They *are* for those qualified in the belief that they can really achieve and want to be compensated only for their achievement. They will appeal to those whose personal development or advancement has been stymied by contrary policy. They will be for those who want the challenge—and opportunity—of responsibility.

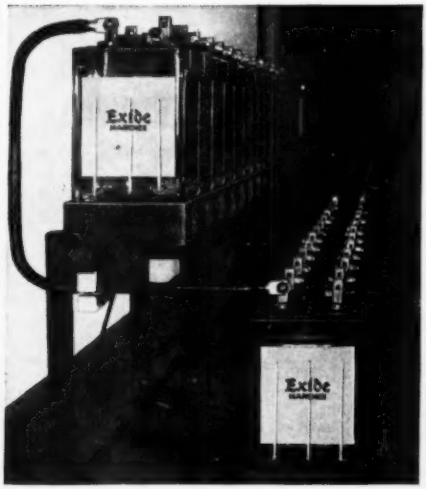
**Consideration will be given only to those submitting detailed history of personal experience and qualifications, which should include present compensation and compensation in all previous positions.** Applications should also include concrete reasons for a desire to change from present affiliation. Pictures should accompany each application.

All applications for each position will be treated in complete confidence. Those really qualified will be promptly advised of interview arrangements.

In each instance, appropriate employees have been advised of these openings.

The organizations involved are growing at a rate much faster than the average for the industries. The opportunity to combine "workability" with "livability" is unusual at the proposed locations.

**Box #1120**
**PUBLIC UTILITIES FORTNIGHTLY**
**309 Munsey Bldg., Washington 4, D. C.**




Exide-Manchex installation in City of Philadelphia Substation No. 4.

Substation No. 4, power source for part of Broad Street Subway. Operated by Philadelphia Transportation Company, largest, privately-owned, unified transit system in America

## "TRIPPING" ON THE BROAD STREET SUBWAY

# Exide-Manchex BATTERIES

More than 90,000,000 passengers a year ride on Philadelphia's city-owned, PTC-operated Broad Street Subway. Directly, and through its many feeder lines, the subway serves a large part of the city and adjoining areas. Safety and service records are high. Equipment is modern, efficient . . . and includes dependable Exide-Manchex Batteries.

Power for the northern section of the subway is normally supplied from Substation No. 4 by three 3000-KW Rotaries. They receive current from the Philadelphia Electric Company, at 13.8-KV, over cables. The station's six, motor-operated oil circuit breakers and five D.C. solenoid-operated air breakers, are powered by Exide-Manchex Batteries, which also provide emergency lighting throughout the station.

**Exide-Manchex Batteries are preferred by many utilities because they assure:**

**POSITIVE OPERATION:**—Dependable performance at ample voltage with no switching failures.

**INSTANTANEOUS POWER:** High rates for switchgear operation with adequate reserve power for dependable performance of all other control circuits and for emergency lighting.

**LOW OPERATING COST:** Extremely low internal resistance.

**LOW MAINTENANCE COSTS:** Water required about twice a year. No change of chemical solution needed during life of battery.

**LOW DEPRECIATION:** Sturdy, long-life construction.

**GREATER CAPACITY** in a given amount of space avoids overcrowding of equipment.

These features combine to make Exide-Manchex *your best power buy* for all control and substation services.

THE ELECTRIC STORAGE BATTERY CO.
Philadelphia 2
*Exide Batteries of Canada, Limited, Toronto*
"Exide" and "Manchex" *Reg. Trade-marks U. S. Pat. Of.*

***1888 . . . DEPENDABLE BATTERIES FOR 64 YEARS . . . 1952***

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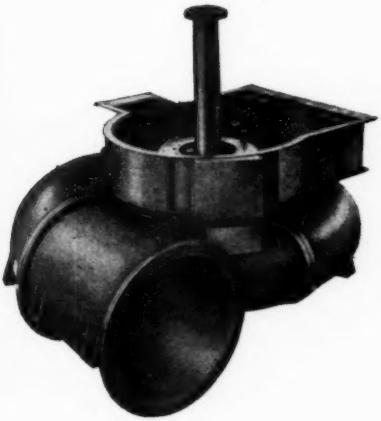
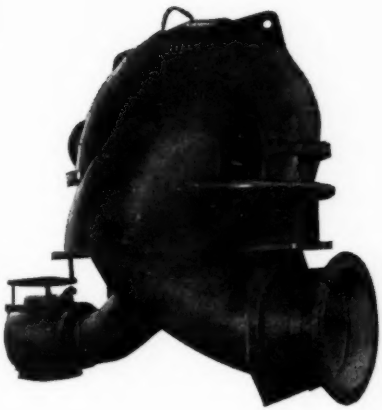
# You can rely on LEFFEL Hydraulic Turbines





To be sure of top power and minimum trouble specify Leffel hydraulic turbines. Leffel turbines have an unparalleled record of efficient year-in year-out service. And when power means profit —an ever-dependable Leffel is what you need.

Leffel offers you a wide range of capacities in hydraulic turbines and a complete line of turbine accessories. Our plant is entirely modern and well-equipped. Our staff is made up of experienced, highly-competent engineers, ready to give you expert help on complete new turbine installation or modernization. And continued interest in Leffel turbines after installation is part of our service.

Leffel puts 90 years of complete hydraulic turbine experience at your disposal. Inquire now, without obligation.

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MORE EFFICIENT HYDRAULIC POWER FOR 90 YEARS

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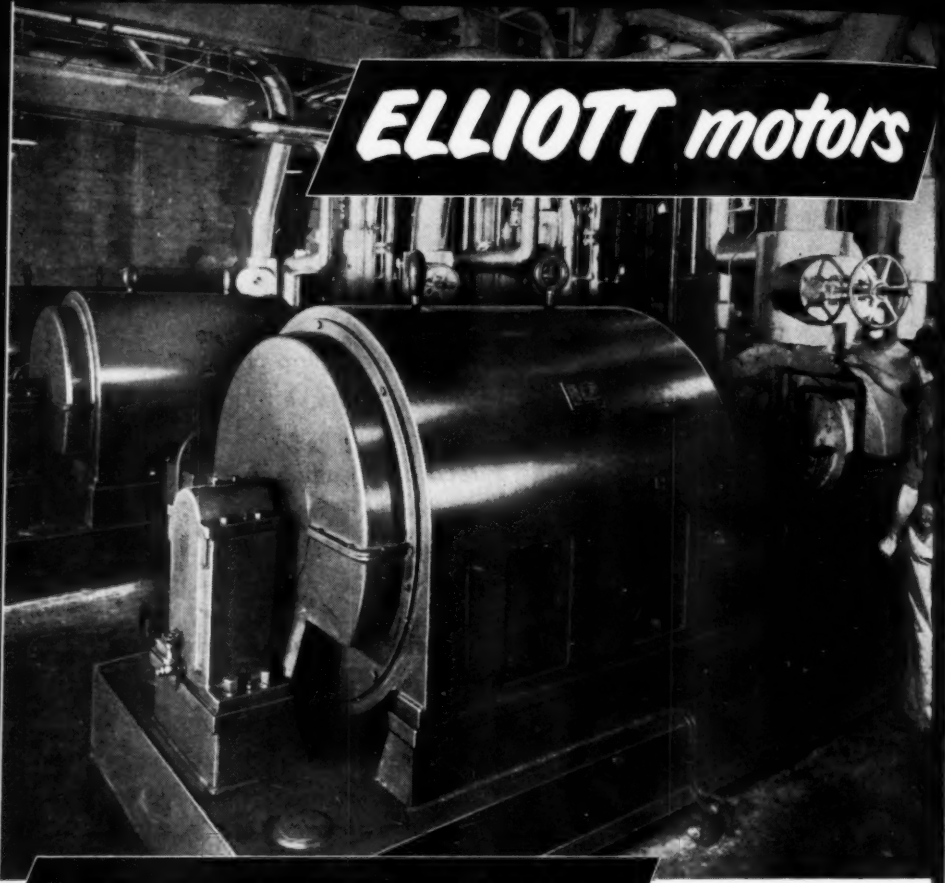



## FOR THE SMOOTH OPERATION THAT HOLDS COSTS DOWN

*Three Elliott 2000-hp, two-pole motors driving boiler-feed pumps in a central station.*

These big, quiet-running motors are as capable as they look. They are built on the Elliott "Fabri-Steel" principle, with frames of heavy steel plate, electrically welded—a method which permits a new freedom in design, new ease of accessibility and maintenance, new crack-proof strength, new enduring rigidity.

Also available in outdoor design, armored against any weather, and dispensing with costly covering structures. The investigation of Elliott motors particularly suited to utility service may be interesting and valuable.

# ELLIOTT Company

***Ridgway Division***
***RIDGWAY, PA.***

*FOR MOTORS 1—200 HP:*
CROCKER-WHEELER DIV., AMPERE, N. J.
Plants at: JEANNETTE, PA. • RIDGWAY, PA.
AMPERE, N. J. • SPRINGFIELD, O. • NEWARK, N. J.
DISTRICT OFFICES IN PRINCIPAL CITIES

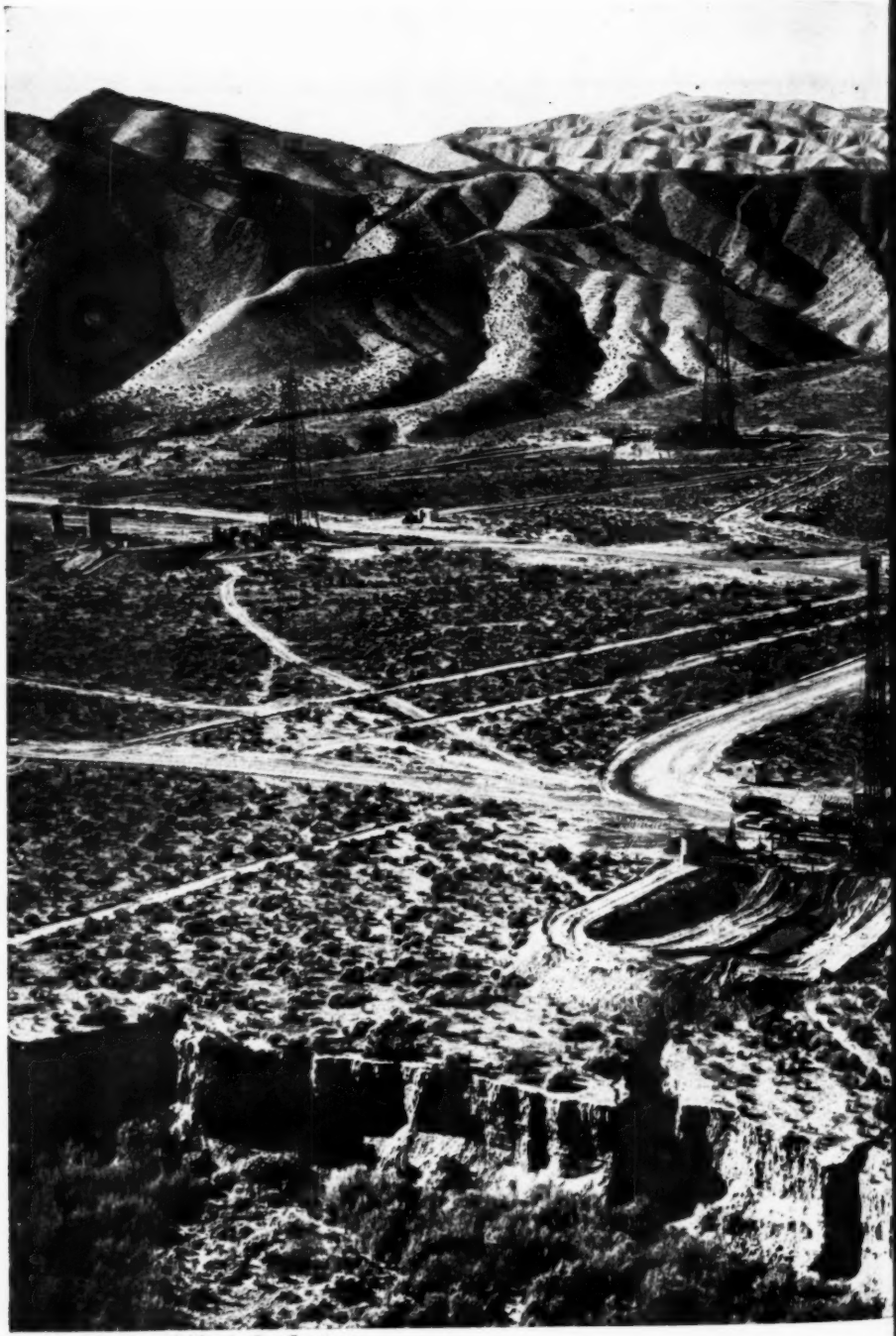
# Utilities Almanack

## November

| | | |
|---|---|---|
| 20 | $T^h$ | ¶ *Mid-Southeastern Gas Association begins annual meeting, Raleigh, N. C., 1952.* |
| 21 | F | ¶ *Oklahoma Telephone Association ends 2-day annual convention, Tulsa, Okla., 1952.* |
| 22 | $S^a$ | ¶ *Southern California Meter Association ends 3-day instrument maintenance course, Los Angeles Harbor Junior College, Cal., 1952.* |
| 23 | S | ¶ *Liquefied Petroleum Gas Association will hold board of directors meeting, New Orleans, La., Dec. 4, 5, 1952.* |
| 24 | M | ¶ *Public Utilities Advertising Association, Region 2, will hold winter meeting, Atlantic City, N. J., Dec. 4, 5, 1952.* |
| 25 | $T^u$ | ¶ *American Standards Association begins one-day annual meeting, New York, N. Y., 1952.* |
| 26 | W | ¶ *American Water Works Association, Cuban Section, will hold annual meeting, Havana, Cuba, Dec. 4–6, 1952.* |
| 27 | $T^h$ | ¶ *Institute of Radio Engineers and American Institute of Electrical Engineers will hold joint electronic computers conference, New York, N. Y., Dec. 10–12, 1952.* |
| 28 | F | ¶ *Illinois Traffic Engineering Conference will be held, University of Illinois, Urbana, Ill., Dec. 11, 12, 1952.* |
| 29 | $S^a$ | ¶ *Edison Electric Institute, Industrial Relations Committee, will hold meeting, New York, N. Y., Dec. 18, 1952.* |
| 30 | S | ¶ *American Society of Mechanical Engineers begins annual meeting, New York, N. Y., 1952.* |

## December

| | | |
|---|---|---|
| 1 | M | ¶ *Southern Gas Association begins gas company advisory council and management conference, Point Clear, Ala., 1952.* |
| 2 | $T^u$ | ¶ *American Institute of Electrical Engineers will hold winter general meeting, New York, N. Y., Jan. 19–23, 1953.* |
| 3 | W | ¶ *National Association of Radio News Directors ends 3-day convention, Cleveland, Ohio, 1952.* |



*Courtesy, Southern California Gas Company*

## Pioneering Production

*A portion of the Cuyama valley field near Taft, California.*

Public Utilities
FORTNIGHTLY

VOL. L, NO. 11 November 20, 1952

# Impact of the Northern Natural Gas Decision on Financing

*A careful account of the effect of an FPC decision upon investment in natural gas company securities. The commission's decision in the Northern Natural Gas Case has caused some concern in the industry over restrictive regulatory policies. This is the first of two articles analyzing the situation resulting from the decision.*

BY RALPH E. BADGER*

THE Federal Power Commission's recent decision in the Northern Natural Gas Case has more than ordinary significance to investors in and managers of companies operating in the natural gas industry, both pipeline and distribution companies.

This decision clearly forecasts a material reduction in the earnings rate for the industry, and in the growth rate of investment in common stock equities of natural gas companies subject to regulation by the Federal Power Commission. In the Northern Natural Gas decision, the commission states:

> . . . We have examined all of the available evidence of record on this subject and are convinced and find that a 5½

*For personal note, see "Pages with the Editors"

per cent rate of return will produce a fair and reasonable "end result." [1]

In further justification of its findings, the commission states:

> . . . a study of investors' appraisals of the common stock of seven natural gas companies† indicates that during the period 1946 to the conclusion of the hearing that investors were requiring an average return on their investment of about 8.1 per cent. As of the most recent date available in this record, April 30, 1951, the evidence indicates that investments were then being made by investors in the seven companies on a 7½ per cent earnings-price ratio basis. Even when we look to the data with respect to the four natural gas companies** relied on by Northern as indicative of investor requirements, we find that such evidence indicates that the securities were selling during the period 1946 to the conclusion of the hearing on an average return basis of 8½ per cent and, on May 31, 1951, at 7.3 per cent. . . .
>
> A 5½ per cent rate of return would provide a return on Northern's common stock equity of 8.75 per cent after an allowance of one-half per cent to cover cost of financing,‡ and which is after income taxes.

In recent years, investors have felt, justifiably or not, that the minimum fair return allowance in respect to the natural gas industry would be maintained at a 6 per cent level. Historically, the industry has averaged earnings of a higher rate. Investors in natural gas company stocks have experienced an underlying growth in their investment and have priced out the value of current earnings on the basis of this historical growth. The introduction of a 5½ per cent fair return allowance in the Northern Natural Gas decision, coming at a time when capital costs are trending upward and when mounting inflation is raising the fair value of the common stockholder's investment in natural gas companies, must cause some surprise as well as disappointment not only to investors but those responsible for the management of this rapidly growing industry.

A careful examination of the facts indicates the basis for a sharp disagreement with the philosophy adopted by the commission in arriving at the 5½ per cent "fair rate of return" in the Northern Natural Gas decision.

The area of this disagreement centers on the validity of using simple earnings-price ratios (unadjusted except for selling cost) as a basis for determining the cost of equity

[1] Page 14 of Opinion No. 228, Docket Nos. G-1382, G-1533, G-1607, dated June 10, 1952 (95 PUR NS 289). Shortly after the Northern decision, Colorado Interstate and Mississippi River Fuel cases were decided. The allowed fair rate of return in the Colorado Case (95 PUR NS 97) was one-quarter of one per cent above that allowed in the Northern Case, and in the Mississippi Case one-half of one per cent higher.

†"Consolidated Gas Utilities Corporation; El Paso Natural Gas Company; Lone Star Natural Gas; Mountain Fuel Supply Company; Northern; Panhandle Eastern Pipe Line; and Southern Natural Gas Company. The stock of these companies is held by the public and is traded on recognized exchanges."

**"El Paso Natural Gas Company, Northern, Panhandle Eastern Pipe Line Company and Southern Natural Gas Company."

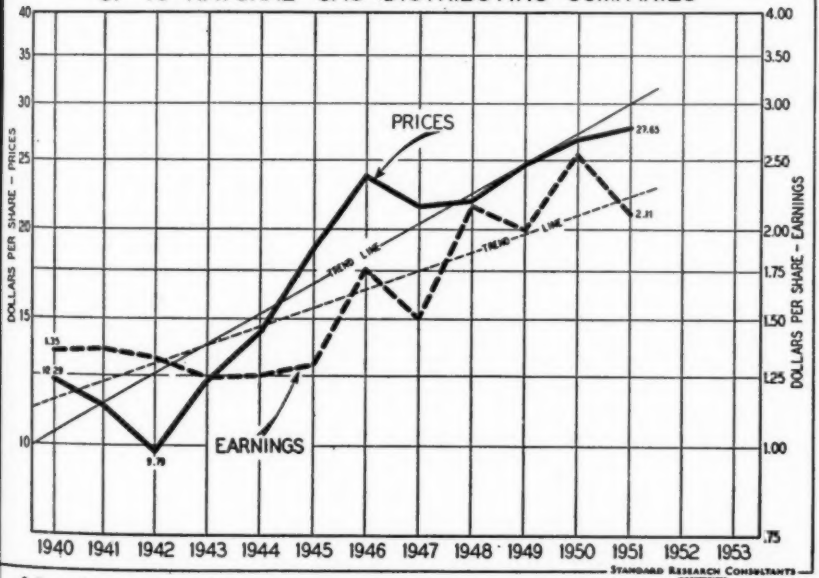
‡"56% bonds x 2.55% cost of borrowed money ..... 1.43%
44% common equity x 9.25% return on common ..... 4.07%
100% Over-all rate of return .... 5.50%

"The earnings-price ratios do not include or reflect the cost of flotation. Therefore, in order to compare these ratios with the return provided on the common stock equity by a 5½ per cent rate of return, it is necessary to adjust the 9.25 per cent by a representative cost of flotation, one-half per cent."

capital. Collaterally, the oversimplified approach to the determination of an over-all fair rate of return used by the commission is subject to further criticism, since it assumes that separate costs can be ascertained for bond capital and equity capital, and that such separately arrived at costs can be combined into an over-all cost of capital, representing a fair rate of return on the basis of a company's existing structure. The commission's approach must inevitably produce a lower return for companies with high debt ratios than for companies with low debt ratios. In reality, the over-all risk of an enterprise is not varied by a change in capital structure, but merely distributed among the several classes of investors in the enterprise. Thus, why should the form of capital structure have any bearing on the over-all fair rate of return to which a utility is entitled?

THE use of unadjusted earnings-price ratios as a measure of the cost of common stock capital is unreliable for a variety of reasons: (1) Earnings may be temporarily depressed, whereas prices do not decline proportionately, since investors expect a return to higher levels. (This is particularly true for companies engaged in rate cases.) (2) Natural gas pipeline companies may have oil reserves. (3) Current market quotations may be predicated on an inade-

AVERAGE PER SHARE PRICES AND EARNINGS OF COMMON STOCKS OF 10 NATURAL GAS DISTRIBUTING COMPANIES[2]

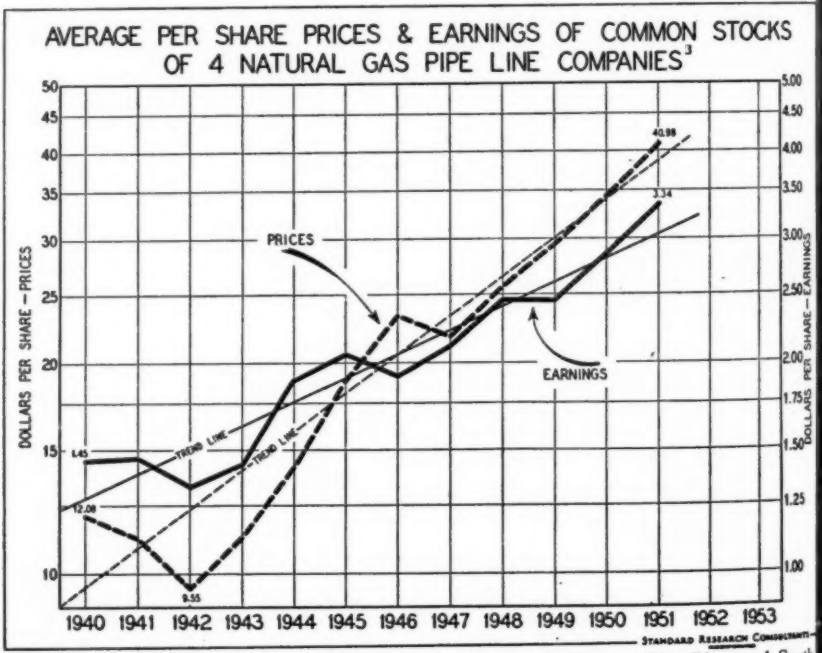



[2] Consolidated Gas Utilities, Houston Natural Gas, Lone Star Gas, National Fuel Gas, Oklahoma Natural Gas, Pacific Lighting, Pacific Public Service, Peoples Gas Light & Coke, Rio Grande Valley Gas, and Washington Gas Light.

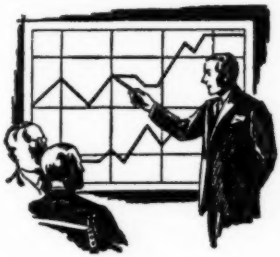
quate volume of trading. There is, however, a more serious objection to the use of simple earnings-price ratios as a measure of the cost of common stock capital.

THE market price of a stock, which is the denominator of the fraction used to compute the earnings-price ratio, is the investor's appraisal of a group of factors of which current earnings is but one. A highly important factor which determines the price which an investor will pay for a common stock is the existence or nonexistence of growth, either as affecting the industry or as affecting the company. The existence of strong industry growth even tends to influence the prices of stocks of companies within the industry which may not, at a given time, have attained the industry rate of growth. This situation results from the investor's expectation that sooner or later these slower-growing companies will fall in line with the industry.

THE impact of growth on the prices of common stocks is well recognized. Certainly no investor would pay the same price for a stock earning $5 a share today, with the expectation that earnings will increase to $8 within a reasonable future period, as he would for a stock earning $5 today, with no prospect of increased earnings. In the case of the




[3] El Paso Natural Gas, Interstate Natural Gas, Panhandle Eastern Pipe Line, and Southern Natural Gas.



COMPARISON
GROWTH FACTORS, EARNINGS-PRICE RATIOS, CAPITALIZATION
AMERICAN TOBACCO COMPANY AND DOW CHEMICAL COMPANY

| Factor | *American Tobacco Company* % | *Dow Chemical Company* % |
|---|---|---|
| Weighted Average Per Cent Earned on Total Capital, 1942-1951 | 7.43 | 11.00 |
| Weighted Average Per Cent Earned on Common Capital, 1942-1951 | 12.58 | 16.61 |
| Per Cent Common to Total Capital | 49.69 | 58.73 |
| Annual Compound Rate of Growth (Common Stock Investment) | 1.043 | 1.114 |
| Growth Factor Compounded for Ten Years | 1.528 | 2.951 |
| Average Earnings-price Ratio, 1949-1951 | 10.18 | 7.75 |

COMPARISON
GROWTH FACTORS, EARNINGS-PRICE RATIOS, CAPITALIZATION
THREE LEADING TOBACCO COMPANIES AND THREE LEADING CHEMICAL COMPANIES

| Factor | *Three Tobacco Companies* % | *Three Chemical Companies* % |
|---|---|---|
| Weighted Average Per Cent Earned on Total Capital, 1942-1951 | 7.49 | 12.69 |
| Weighted Average Per Cent Earned on Common Capital, 1942-1951 | 12.64 | 17.80 |
| Per Cent Common to Total Capital | 51.50 | 64.95 |
| Annual Compound Rate of Growth (Common Stock Investment) | 1.0460 | 1.0979 |
| Average Earnings-price Ratio, 1949-1951 | 10.48 | 6.96 |
| Standard Deviation re Per Cent Earned on Common | 2.31 | 3.80 |
| Per Cent Standard Deviation to Average | 18.28 | 21.30 |
| Average Pay-out Ratio | 62.18 | 46.94 |

first stock, investors might well be willing to pay $80 a share, with a resulting earnings-price ratio as low as 6 per cent. This action would be justified if, within a comparatively short time, earnings advanced to $8 a share, for this would produce a 10 per cent earnings-price ratio on the original cost of his stock. In the case of the nongrowth company, it is unlikely that the investor would pay much more than $50 a share, thus producing an earnings-price ratio of 10 per cent. We therefore have a situation where the stock of a growth company is selling at a 6 per cent earnings-price ratio. It would be erroneous to assume that the cost of common stock capital to the growth company is only 6 per cent.

This situation may well be illustrated by comparing statistics in reference to selected companies, American Tobacco Company and Dow Chemical Company, as well as summary ratios for three leading tobacco companies and three leading chemical companies. These two types of companies were selected because the tobacco companies are characterized by a comparatively low rate of growth, whereas the chemical companies have enjoyed a fairly rapid rate of growth. (See table, page 755.)

The first comparison is between American Tobacco Company and Dow Chemical Company. For the period 1942-1951, the American Tobacco Company averaged to earn 7.43 per cent on its over-all capital structure, as compared with 11 per cent for Dow Chemical. American Tobacco earned 12.58 per cent on its common stock capital, whereas Dow earned 16.61 per cent. These two companies have approximately the same capital structure; in the case of American Tobacco, 49.69 per cent was in the form of common stock; a similar figure for Dow being 58.73 per cent.

THE annual compound rate of growth (common stock investment) was 1.043 for American Tobacco and 1.114 for Dow Chemical. Over the period 1942-1951, the common stock investment of American Tobacco increased 1.528 times, whereas the increase for Dow was 2.951 times. In arriving at these compound rates of growth, additional common stock capital brought in through the sale of new stock was entirely screened out. The growth, therefore, represents the actual growth that took place in respect to the 1942 investment in the company's common stock.

As might be expected, Dow Chemical sold at a much lower earnings-price ratio than did American Tobacco. This is equivalent to saying that the investor is willing to pay more for the current earnings of a growth company that he is for a nongrowth company, other things being equal. A part of the earnings requirements of a growth company with low earnings-price ratios is, therefore, a continuation of the factors necessary to permit the company to grow at its historical rate.

THIS illustration may be carried further by observing the combined data for three leading tobacco companies and three leading chemical companies. The weighted average per cent earned on invested capital for the three tobacco companies was 7.49 per cent, for the chemical companies 12.69 per cent. The chemical companies earned 17.80 per cent on the book value of common stock investment, whereas the tobacco companies earned 12.64 per cent. The tobacco companies had approximately 52 per cent of capital in the form of common stock equity, as against 65 per cent for the chemical companies. The annual compound rate of growth in respect to the common stock investment for the tobacco companies was 1.0460, as against 1.0979 for the chemical companies. The average earnings-price ratio for the tobacco companies was 10.48 per cent, for the chemical companies 6.96 per cent. The figure representing the standard deviation in respect to the per cent earned on common

RATIOS RE GROWTH, CAPITAL STRUCTURE, AND MARKET APPRAISAL
12 NATURAL GAS COMPANIES (5 PIPELINE AND 7 DISTRIBUTION)

| | *Per Cent Earned on Over-all Investment (1942-1951)* | *Per Cent Earned on Common Stock Capital (1942-1951)* | *Per Cent Fixed-charge Capital To Total Average Investment (1942-1951)* | *Per Cent Cash Dividends To Earnings Available For Common (1942-1951)* | *Weighted Average Earnings-Price Ratio (1950-1951)* | *Earnings-Price Ratios Aug., 1952* | *Ratio of Average Market Value Total Investment: Book Value (1950-1951)* | *Ratio of Average Market Value Common Investment: Book Value (1950-1951)* |
|---|---|---|---|---|---|---|---|---|
| *Pipeline Companies* | | | | | | | | |
| El Paso Natural Gas Company | 5.76% | 21.37% | 81.51% | 51.91% | 9.74% | 8.17% | 115.4% | 229.7% |
| Interstate Natural Gas Company | 16.62 | 16.62 | — | 85.78 | 9.69 | 8.61 | 216.5 | 216.5 |
| Northern Natural Gas Company | 8.14 | 13.66 | 48.63 | 65.21 | 5.49 | 4.28 | 127.6 | 162.2 |
| Panhandle Eastern Pipe Line Company | 7.82 | 17.63 | 65.62 | 61.74 | 6.13 | 5.19 | 162.8 | 317.5 |
| Southern Natural Gas Company | 8.28 | 14.52 | 55.81 | 57.66 | 10.42 | 7.75 | 119.6 | 154.7 |
| *Essentially Distribution Companies* | | | | | | | | |
| Consolidated Gas Utilities Corporation | 9.49% | 13.47% | 46.92% | 35.58% | 12.44% | 11.07% | 101.5% | 102.7% |
| Houston Natural Gas Corporation | 7.84 | 15.99 | 69.34 | 50.91 | 7.85 | 8.51 | 117.5 | 169.0 |
| Lone Star Gas Company | 9.07 | 12.46 | 34.56 | 63.05 | 7.52 | 5.71 | 141.0 | 180.8 |
| Mountain Fuel Supply Company | 5.94 | 6.58 | 13.25 | 63.37 | 5.66 | 6.00 | 122.7 | 132.1 |
| National Fuel Gas Company | 4.97 | 5.38 | 17.52 | 89.37 | 9.57 | 9.22 | 86.0 | 79.9 |
| Oklahoma Natural Gas Company | 7.03 | 13.47 | 65.08 | 54.28 | 9.25 | 7.34 | 107.8 | 145.2 |
| Pacific Lighting Corporation | 6.54 | 11.56 | 65.68 | 75.47 | 8.94 | 7.81 | 108.3 | 130.5 |

SUMMARY OF SIGNIFICANT RATIOS RE
GROWTH, CAPITAL STRUCTURES, AND MARKET APPRAISALS
12 NATURAL GAS COMPANIES (5 PIPELINE—7 DISTRIBUTION)

| | *Average for* | | |
|---|---|---|---|
| | *5 Pipeline Companies* | *7 Distribution Companies* | *All 12 Companies* |
| Per Cent Earned on Over-all Investment (1942-1951) | 7.73% | 6.95% | 7.30% |
| Per Cent Earned on Common Stock Capital | 16.30 | 9.92 | 12.19 |
| Per Cent Fixed-charge Capital to Total Average Investment | 66.40 | 46.93 | 53.71 |
| Per Cent Cash Dividends to Earnings Available for Common—(Pay-out Ratio) | 62.45 | 67.92 | 65.32 |
| Annual Compound Rate of Growth re Per Share Book Value of Common Stock | 1.0604 | 1.0321 | 1.0421 |
| Weighted Average Earnings-price Ratio—Period (1950-1951) | 7.82 | 8.51 | 8.23 |
| Weighted Average Earnings-price Ratio—Current (August, 1952) | 6.42 | 7.48 | 7.06 |
| Ratio of Average Market Value Total Investment to Book Value (1950-1951) | 132.7 | 114.2 | 123.5 |
| Ratio of Average Market Value Common Stock Investment to Book Value (1950-1951) | 213.2 | 134.5 | 166.8 |

related to the average rate earned showed little variation in the investment risk generated by earnings variations for the two groups. The pay-out ratio for the tobacco companies was 62.18 per cent, for the chemical companies 46.94 per cent.

At this juncture it is possible to make the observation that earnings-price ratios may be strongly influenced by industry growth. It is apparent that the rate earned on common stock equity has a great deal to do with the rate of growth of a company. If the cost of capital for the chemical companies was considered to be about 7 per cent, with an adjustment for selling cost, and if their earnings were restricted to 7 per cent, it is obvious that they would not have earned 17.80 per cent on their common stock equity. If they had not earned at a rate of 17.80 per cent on their common stock equity, they would not have had an annual compound rate of growth of about 1.10 times. If they had not had this rate of growth, they would not have sold at a 6.96 per cent earnings-price ratio. It should be obvious at this juncture that a cost of capital determination, emanating from the 6.96 per cent earnings-price ratio, must be fraught with the possibility of grave error, since this earnings-price ratio, upon which cost of capital is being determined, is itself a function of the rate earned on common stock investment. It is highly important to maintain this concept clearly in mind.

These facts have a significant bearing on the inadequacy of simple earnings-price ratios as a test or measure of the common stock capital to a natural gas company. The natural gas industry, and companies within the industry, experienced a rapid and satisfactory growth during the past decade. This growth has been reflected in declining earnings-price ratios. (See charts, pages 753 and 754.)

In the preceding charts, weighted average earnings per share and weighted average prices per share, adjusted for stock dividends and split-ups, were plotted on logarithmic scales. Thus, the movements, both in respect to per share earnings and in respect to per share prices, present clear-cut evidence of the growth which has taken place in investments in common stocks of natural gas companies during the past ten years. Growth in respect to common stock investment in a company is predicated on (a) the rate earned on common stock investment, and (b) the amount of these earnings distributed in the form of common stock dividends. An analysis of certain of the basic factors responsible for generating growth in natural gas companies is set forth in the table on page 757.

On the basis of group averages, the five pipeline companies averaged to earn 7.73 per cent on over-all investment for the period; the seven distribution companies, 6.95 per cent; and the twelve companies combined, 7.30 per cent. The five pipeline companies averaged to earn 16.32 per cent on their average common stock investment for the period; the seven distribution companies, 9.92 per cent; and the twelve companies combined, 12.19 per cent. The average pay-out ratio for the entire group of companies was close to 65 per cent.

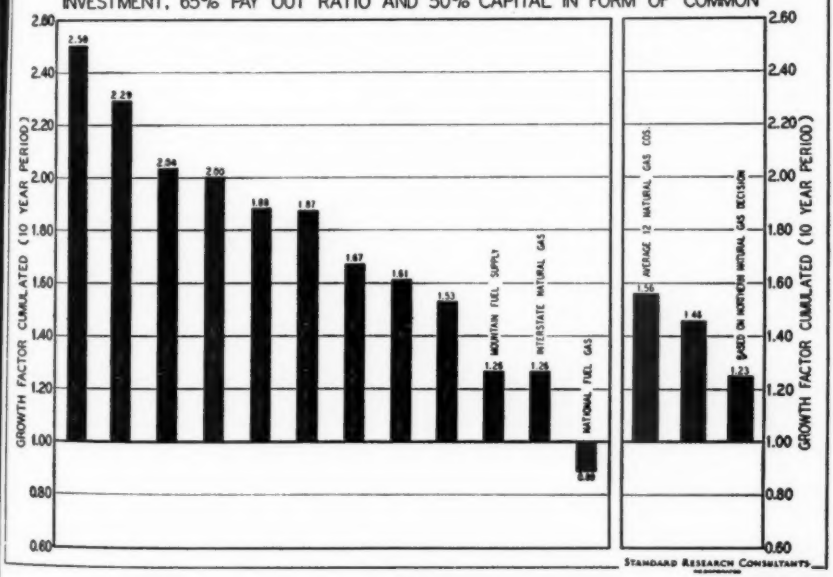
In respect to capital structure, the

five pipeline companies had 62.40 per cent of capital in the form of fixed-charge capital; the distribution companies, 46.93 per cent; and the twelve companies combined, 53.71 per cent.

A dollar of investment in the five pipeline companies experienced a compound annual rate of growth of 1.06; the distribution companies, 1.03; and all companies, 1.04. In computing the rate of growth annually, no effect was given to growth resulting from the introduction of new capital either by sale or stock or by merger. The measure of growth, therefore, applied to the growth generated by per cent earned on common stock capital and dividend pay-out, is the element here considered.[4] The adjusted cumulated compounding factor for the 10-year period was obtained by combining successively the compounding factor for each year in the form of a geometric progression. The figure so obtained, which indicated the extent to which a dollar of book value of common stock investment compounded over a period of ten years, was then reconverted back to an average annual rate by taking the tenth root of the cumulated compounding factor. The figure, therefore, designated as the annual compound rate of growth is equivalent to a compound interest rate, and indicates the rate of growth on a compound interest basis experienced in respect to common stock capital invested in these natural gas companies over the period 1942-1951.

Current market prices of the stocks

[4] It is necessary to adjust pay-out ratio each year for any miscellaneous debits or credits which appear below the line.



of natural gas companies are a function not only of the earnings of the company but of rate of growth. Rate of growth, however, is dependent upon the rate at which the company earns on the book value of its common stock investment. Earnings-price ratios obtained by dividing per share earnings by market prices, therefore, are no measure of the cost of capital whatsoever for companies in a growth industry. The true measure of the cost of capital, or, better, the fair rate of return for a natural gas company, is a rate which, applied to over-all investment, will provide adequate income to service fixed-charge capital and to leave sufficient earnings for common stock capital to sustain its market price at a reasonable level above book value. If the rate of earnings on common stock falls below this level, then the company's credit becomes impaired, economic confiscation results in respect to the existing stockholders, and the company is not in a position to obtain additional capital appropriately divided between common stock and fixed-charge capital on equitable terms.

It is interesting to observe the rates of growth applicable to various companies within the industry.

QUITE naturally, the growth factor varied for the several companies studied, ranging from a deficit in the case of National Fuel Gas to a rate of 250 per cent in the case of Consolidated Gas Utilities. The average for the twelve companies indicated that $1 of book value in 1942 had increased to $1.56 by 1951 as the result of earnings plough-back. The industry potential may be placed at 1.46. This is a calculated figure arrived at by assuming an earnings rate of 11 per cent on common stock equity and a 65 per cent dividend pay-out ratio for a company with 50 per cent of its capital structure in the form of fixed-charge capital and 50 per cent in the form of common stock capital.

THE last bar on the chart (page 759) indicates what the industry may expect in the way of future performance if the earnings of the industry are to be reduced to the level provided for in the Northern Natural Gas decision, and assuming that no reduction is made in current cash dividend payments by the industry. It would appear logical to predict a material change in the future earnings-price ratios for natural gas company stocks if the average performance of the industry is to be cut back to the growth indicated by the Northern Natural Gas decision. It is also logical to assume that past investors in natural gas company common stocks will feel keen disappointment if the industry is to be restricted in respect to earnings and growth to the potential allowed.

In the light of these facts, the question may well be asked: Is the 5½ per cent over-all fair rate of return, found for Northern Natural Gas Company, adequate? Or, should not a realistic approach be made to determine the fair rate of return requirements for natural gas companies by going beyond a study of simple earnings-price ratios and determine the over-all requirements necessary to support the market value of total investment at a satisfactory level above book value?

# Public Relations Planning of Utility Management

*Now that the elections are over, management faces some forthright decisions. Governmental intervention in business may have reached its peak. Businessmen should encourage the new President to give business enterprise greater incentive. Sound public relations programs have, and can continue to have, salutary effects in producing a social climate in which business can keep on producing and increasing the standard of living for all.*

By DONALD D. HOOVER*

AMERICA'S problem — perhaps I should say its hope—is that the next four years will see this country back on the course of individual enterprise and honest prosperity. The recent election has not changed that problem.

Whether President-elect Eisenhower will steer the Ship of State hard "right"—or at some degree to the right—whether he will travel a middle road, or whether he will take off to the "left" is the great and serious conjecture which faces the nation and, therefore, faces management of all industry.

Whether the new President goes hard left or not may well depend on what management does—or does not do—that makes sense to him and to his advisers, on what he adopts or inherits of governmental policy or practice of the past twenty years.

It will be management's responsibility to judge events soberly and to speak out in defense of or opposition to whatever is done of a controversial economic nature.

By and large, it has been a fault of business that it has *not* spoken out, that it has failed in this responsibility, sometimes because of fear of punitive retribution, sometimes in hope that silence might obtain for it better treatment from those who, since 1932, have usurped or sought to usurp direction of all facets of our living from the economic to the channels of information on which the public bases its opinions.

Neither course has worked.

DYNAMIC American enterprise has been heavily larded and loaded

*For personal note, see "Pages with the Editors."

with government pap and promise. The result has been that the Federal government has become more "important" than it ought to be—the individual and state governments have become "smaller" than they ought to be.

Management should prepare to see many governmental matters decided on a *local basis,* which formerly were questions of *Federal government* concern resolved on a national basis. If that assumption is correct, public relations of each individual company, as well as each industry, will become more important than ever before—and the potential for resultful action will be higher. During the campaign both candidates indicated their belief that the Federal government should take jurisdiction only where local governments cannot meet a situation. That position underscores the importance of *local* public relations—of transmitting to the various branches of the utility industry the usually excellent local—in this specific instance—standing of operating entities of each.

BUSINESS has grown to look to Washington much more than it should have to after next January, and it's time to review and begin changing both sights and methods. The latter may well be acceleration of so-called grass-roots efforts. The general climate of public opinion is favorable to that change.

Public opinion today—at the management level—is perfectly cognizant of the threat of government in business. The degree to which management is *acting* to combat that danger varies from all-out opposition to *anything* with the tinge of socialization to waiting hopefully for some ill-defined "better day." The latter policy just won't work.

OPINION RESEARCH CORPORATION's midyear Public Opinion Index supports this statement of management awareness, through the results of a national cross-section survey of company presidents on the question: "In your view, what are the three most important problems facing industry today?"

The frequency of answers were:

| | |
|---|---|
| Government intervention in business | 66% |
| Taxes | 53% |
| Inflation | 32% |
| Government spending | 31% |
| Need for adequate earnings | 29% |
| Labor | 20% |
| Government controls | 17% |
| Need for greater understanding of free enterprise system | 12% |
| Raising new capital | 12% |
| Unfair competition | 6% |
| High operating costs | 4% |
| Expanded sales renewal of aggressive sales policies | 4% |

Government intervention in business has in my opinion reached its peak IF business will encourage the new President to give business-management-private enterprise greater encouragement, to the end that business will continue to be the producer of more and better goods and services, free of tax-subsidized competition and of the undermining by those who advocate nationalization of industry. Make no mistake about it, there will be many government employees, many of them wielding tremendous advisory pressure, still on the Federal payroll and still the same hard core which through the years has sought to undermine the confidence of the people in the enterprise system.

An important factor which favors the lessening of government influ-

ence in business, at the *voting* level, is the reversal of the trend regarding public ownership in the past fifteen years. A Gallup poll in 1937 showed that among all voters at that time, public ownership was preferred 2 to 1 over private ownership of the electric industry. Even in areas served by private companies there was a margin for local public ownership, a belief that this would mean lower service bills. There even was a substantial degree of feeling that government ownership would be more efficient.

At the time of the 1937 survey, a large proportion of people said they believed "big business" was bad for the country; nearly half the voters felt big business should be replaced by small concerns; nearly six out of every ten persons said business was making more than a fair profit; two out of every five said they would prefer government employment to working for a private business. More people were prone to blame business and management than to blame administration leaders for any strained relations between government and business.

Things have changed since 1937, fortunately. There has been a constant progress by management, and a growing awareness by the *public* of the effectiveness of the enterprise system and of the pitfalls of government in business. Just ten years ago, *three persons in every five thought that Socialism or some form of it would be a good thing for this country as a whole or else had no opinion whether it would be good or bad.* Seven years later the combined leftist and doubtful proportion was only slightly more than one-fourth.

In Dr. Gallup's samplings of public opinion over a 9-year period, the proportion favoring public ownership of the electric industry dropped more than one-half. Carrying on the study of public opinion on this same question, surveys made for the Electric Companies Advertising Program have shown a drop of about one-third in support for some sort of government ownership between 1943 and 1951. The research and studies made by Central Surveys, Inc., for the Electric Companies Public Information Program, support this trend in their grass-roots contacts.

LITTLE is known of specific views of President-elect Eisenhower on the question of public *versus* private power. From the electric industry policy standpoint, however, I do not regard this with alarm. His speech at Seattle about the need of "partnership" in resources development was reassuring but not too definite. The mere fact that he apparently has no preconceived notions indicates an open mind. It is like-

¶ "PUBLIC *opinion today—at the management level—is perfectly cognizant of the threat of government in business. The degree to which management is* ACTING *to combat that danger varies from all-out opposition to* ANYTHING *with the tinge of socialization to waiting hopefully for some ill-defined 'better day.' The latter policy just won't work.*"

ly that Mr. Eisenhower will follow the advice of the majority of members of both houses of Congress and of Republican governors, particularly in the western states. His sense of fair play, as well as his objectivity toward the place of business in the economic picture, should lead him to consider both sides of the electric issue and then draw his own conclusions. Once the full story is presented to him—and this is where management participates in a big way—the facts about the business-managed companies will speak for themselves.

The next President is not bound by a stringent set of platform planks, except for the belief expressed in that platform that private business has a legitimate place—especially in the power industry. He is expected by political observers to follow that line.

The next Vice President, Senator Nixon, although he comes from a state considered liberal on the power question, is expected to follow the line set out by Eisenhower. He, too, I believe, is convinced of the efficacy of private business as compared with government.

Senator Nixon's campaign for Senator in 1950 undoubtedly expresses his convictions.

IN view of the probability that anti-industry criticism by public ownership zealots will continue, the question has been raised by many electric company leaders of whether to attempt answers or not.

Before deciding to engage in a running duel with such opposition any industry must consider two things:

1. The impact of such attacks on the industry itself.

2. The effect which public debate might have.

From by far the bulk of available editorial comment as a result of President Truman's bitter antiutility speech before the Electric Consumers' Conference in Washington last May and his talks last summer at the dedication of the Bull Shoals and Norfork dams in Arkansas, it appears that he has made little impression by repeating his familiar charges against the industry.

This is especially highlighted by the now-famous cartoon from the *Arkansas Gazette*—an administration newspaper—which showed bloodhounds following the plainly marked footprints of administration corruption. At the crossroads, however, was the President pointing down a different trail labeled electric company advertising, and shouting: "Quick, men, they went this way!"

IN addition to newspaper, radio, and magazine editorial reaction to these intemperate attacks, there are other indications that attacks on the electric industry in themselves lack effectiveness.

In at least two significant primaries, avowed public power advocates have lost their fight for renomination. One was in North Carolina, where Representative John H. Kerr, long-time disciple of public development of power, was defeated last spring nearly 3 to 1 despite a campaign on that issue. Another strong public power supporter, Governor Sid McMath of Arkansas, was defeated for a third-term nomination in a campaign marked by charges and countercharges about the electric industry. It was Governor

## Utilities Can Give Good Example

*UTILITIES must be positive in their stand, reasonable in their rates, and courageous from top to bottom in their personnel. If they do their operating jobs as well as they have historically—and they are doing that today in each branch of the industry, frequently better—and become vocal without asking for praise or back-patting, they will receive credit for being good citizens and good service-minded folks. And by example they will prove that free enterprise has, can, and should do the job of continuing to provide the essential services which were developed through private capital and initiative.*

McMath who ordered a broad investigation of electric company advertising and public relations in Arkansas in a move interpreted in that state as political. One of the men prominent at his headquarters was Clyde Ellis, head of the National Rural Electric Co-operative Association.

These instances tend to lend credence to the belief that public power as an issue has lost the great effect created by the same type of campaign instituted by President Roosevelt in the early thirties. By the same token, these and other instances are effective indications that the enlightened program of information carried on in recent years by electric industry organizations and individual companies is bearing fruit. The gas industry is considering a similar information program; the telephone and transit industries likewise are telling their stories to the public. I have dwelt at length on the electric industry because it is a Number One target for the socializers. And having been that target for over a quarter of a century, its experience offers much to all other industry.

THE problems which the utilities face politically are far from partisan, and should not be. The service which utilities render can never be ascribed to the influence of any one political party.

Let's keep in mind that Boulder dam was started by a Republican administration—that in Nebraska it wasn't the Democrats who brought about the *complete* "publicization" of the electric business. Republicans did it. The first powerful public power advocate —the one who interested Guy Myers for the first time—was a Republican.

The leader of the Omaha public power effort was, and still is, the state treasurer of the Republican party in Nebraska. A staunch Republican newspaper led the fight for public ownership in Omaha.

Why did that staunch Republican newspaper in Omaha come out for and fight for municipal ownership of the electric company? Why did the state treasurer of the Republican party come out for public power in Nebraska? Why did a former president of the National Real Estate Board, who vehemently opposed public housing because he considers that socialization of the real estate business, take the lead in a state fight for public power? Why does a doctor in some town—fanatically opposed to the socialization of medicine—lend his name and even lead the fight for municipal ownership of his town's electric business? Was it because the electric industry failed in its responsibility to the people? Or was it because that industry failed to report adequately its achievements?

ANSWERS to those questions suggest the kind of job public relations must do for the utility company—and, yes, for the benefit of your fellow citizens, too, during the next four years, and years after that.

These people are so-called conservative thinkers. They are opposed to Socialism; they are opposed to government in business: That doctor in your town will tell you so. He is very much opposed to socialization; he would fight at the drop of a hat, he says, any of these people he calls Socialists. These people of my town, and other people throughout our land, must be sold. The industry public relations program must be directed to sell the people of local communities, the people of all these United States that when the government takes over *any* business — medicine, insurance, the railroads—and yes, the electric business—that is the hole in the dike. From there, no one knows when the federalization flood will break.

Public relations, and that includes advertising and publicity, cannot be created, expanded, developed, and made effective on the basis of what was done in the past, except as we accumulate experience and standards of judgment.

So that management may better appraise—and, yes, have confidence in—its public relations programs a utility company's public relations program has to be laid out and defined as well as it possibly can be, considering the variables that always exist. Management must first be *certain* that it is, itself, sold on public relations as a major management need. Then a statement of objectives can be drafted, a plan set up with as much research and care as is exercised before building a generating station or a pipeline or a telephone exchange or in mapping a bus route change. Any workable plan, of course, starts with a definition of objective.

AN essential element of this planning is that the man who is made responsible should have full access to management—that he report to the president or to the executive vice president.

By approaching the problem in this manner, utility management can obtain more effective (and more eco-

nomical) execution of public relations programs for the company's benefit and for the public's benefit. Certainly, less confusion will result than comes from a hit-or-miss program in which the chief executive takes a position that "public relations are a good thing" and then fails to inspire his staff with the need for building them.

BECAUSE public utility management is aware that public relations is not an exact science, it too frequently is of the opinion that public relations activities cannot be specifically and definitely programmed, and I mean programmed each week of each month, of each year. You can count on one hand the number of electric companies which *each year* set out in writing, charts, and graphs a complete program of public relations for the year to come. Some have the "ideas in their head" as to what they are going to do during a particular year, but how many public utility managements have in their hands before the beginning of each year a complete and detailed plan and program, stating what is to be accomplished in public relations, completely, for the company during the year ahead?

Still, a large amount of money is spent each year for public relations. Public relations is just as important as the power plant. Without proper public relations, a company might not have the power plant to run. That is the reason for the emphasis on the steps which public utility management must take into consideration and effectively work out before it can ponder over what part public relations should play in its planning and thinking. Public relations in the planning and thinking of public utility management should be centered first to continuing the selling of those who are served that the company is a good, civic-minded citizen of the communities served. That is extremely important in setting up the second and most substantial phase of a public relations program for the next four years. Management must so conduct itself and carry out public relations and informational programs which will convince all customers—neighbors and fellow citizens—that one can't expect to limit a plague to doors other than his own; that the discrediting of one business leads to another, then to another.

A PUBLIC relations consultant must perforce be objective and frank in his relationship with his client. Therefore, and without discourtesy, I say that as a rule the utility companies, in their orderly and careful way, have succeeded in missing the greatest opportunity of any industry. They have done their technical job superbly

¶ "WITHIN *the next four years . . . American management must make up its mind to give more than lip service to the job of reselling free enterprise to the American people. In the first place, management must set itself to the task of understanding exactly what it means and why it believes in the economic system which it is trying to preserve.*"

well; their financial job increasingly better as the years have passed. But by and large they have failed to release the ideas and to put to use the chances and plans for having their industry understood, appreciated, and liked.

They have, of course, done *something* about this. But reviewing the history of the past twenty-five years and considering that these companies fill the greatest of needs; have the finest of lists of customers, investors, and employees; have millions of tailor-made service contacts; have the soundest and most encouraging "story" of *any* industry in doing a job well—stack these accomplishments up against those in the public relations field and the utilities do not get a very high rating.

This is not the fault of the utility president; consider his added burdens of combatting inflation, and higher costs, his organization problems, dealings with regulatory bodies, and his multiplicity of other duties incident to staying in business. Nevertheless there has been a falling down in explaining the social-corporate side of business, and that is a job for top management.

Owen D. Young, discussing "public relations" at the May 18, 1926, meeting of the NELA in Atlantic City, said:

> *In my view, the difficulties between the public utilities and the public arise from the fact that the public utility managers know too much about their business and the public knows too little about it.* (Emphasis supplied.)

There still is a great deal of merit to that comment!

BASED on the success of companies who are taking advantage of the vehicle, I would say that the greatest untapped opportunity for building better public relations is the employee, particularly the employee with a flair for, and interest in, public relations.

Next in line of opportunity is establishing effective lines of communication to customers. The trend has been to *cut down* these channels, and where the self-interest and basic concerns of the customer (who is the voter!) can be identified with the company's activities, a tremendous weapon has been forged.

The investor, of course, is another public relations tool—one which companies in various parts of the country have utilized with great effectiveness.

Another group which should know more about the social-corporate aspect of business includes schoolchildren (on a factual, not a propaganda basis) and college students. It's not subversive, expensive, or dangerous to make proper information available to educational institutions. Certainly other businesses—and government—do so and this assistance is gratefully received by schoolmen.

I AM assuming—and rightly, I know—that managements will continue to do as able and as clean an operating job as they are doing now. But obviously that is not enough. Community, area, and national obligations grow constantly. In this sensitive and intangible field of relationships, we should be as skilled as we are in the distribution of a commodity or service that is an essential servant to everyone, and, like sound understanding, it is also an intangible to most of our customers.

## A Lesson from the 1952 Election

*"We all must recognize, sooner or later, that government is our business, not an alien force that constantly needs to be appeased. Government is what we ourselves make it. Management must do its part in making the system work. Too often we hear of businessmen demanding the very favors for themselves that they condemn in others. If they believe in free enterprise, in competition, in opportunity, in the profit incentive, they must also act in that belief."*

Within the next four years—I might even say within the next few months—American management must make up its mind to give more than lip service to the job of reselling free enterprise to the American people. In the first place, management must set itself to the task of understanding exactly what it means and why it believes in the economic system which it is trying to preserve. It cannot expect to convince others unless it, too, is convinced that this system really is the best for customers, employees, and the public at large—unless it can answer the $64 question: *Why is it best?*

Management must recognize our American enterprise system is a *dynamic* system, that it is capable of infinite improvement and adaptation to changing conditions, and above all that it must correspond to the human needs and desires of people in every condition of life. Management people should, therefore, be the leaders—not the reluctant or acquiescent followers in improving that system. Let management people, not their opponents, search out the cracks and errors of the system. And let them make sound proposals for correction. In this way, the industry can get the credit, not its critics, and, best of all, at least a chance is provided of avoiding crackpot or delusive schemes that would destroy instead of strengthening our national economy.

Attention should also be given to the "constructive alternatives" to super government programs of subsidized competition and control. For example, it has been suggested in responsible quarters that businessmen form a syndicate to purchase from the government the Federal power-producing facilities. This, in my judgment, should be no idle dream but a thor-

oughly practicable proposition, with the public fully protected by competent and responsible regulation of rates and standards of service such as now is being done by state utility commissions.

We all must recognize, sooner or later, that government *is* our business, not an alien force that constantly needs to be appeased. Government is what we ourselves make it.

Management must do its part in making the system work. Too often we hear of businessmen demanding the very favors for themselves that they condemn in others. If they believe in free enterprise, in competition, in opportunity, in the profit incentive, they must also act in that belief. If they really believe that anything government can do, they can do better, then let them also refrain from running to that government every time something goes wrong. By their own example, they can change the psychology expressed in the slogan, "Get it from the government" to "Earn it by industry."

Now for specific suggestions: The recommendations I would submit in any across-the-table talk about the importance, and mechanics, of public relations in utility companies are:

1. The immediate problem for management is to do everything it properly can to assure that officials and employee-associates *know* the *issues*, and *vote* in future elections. That includes active get-out-the-vote and registration campaigns with employees, and a frank discussion of the principles for which the company stands, so that all concerned may freely make up their minds. The recent record electoral turnout can still be improved by far.

2. Phase II is a long-range, long-term public relations campaign to tell the achievements of the company, regardless of whether the Federals are blowing down its neck. Steps in this campaign are:

a. Define the objective.

b. Appraise the available "tools"; *i. e.*, employees, stockholders, customer contacts, and present advertising and publicity practices and media.

c. Carefully prepare a plan, demanding the same degree of thoughtful study which would be used to approach an engineering expansion problem.

d. After approving the plan, designate an executive to carry it out, reporting to the top executive level. Public relations today is too comprehensive and inclusive to be just a part of the sales or some other department, as it is in some companies.

e. Inform employees, just as soon as possible, of what management is trying to do and why. All executives should know that an information program not only has front official blessing, but that their unqualified support is required.

f. Start an employee information program, after a survey to find out what the *employees* want to know. The essence of an employee program is answering the question "What can *we* do about it?"

g. Seek additional customer contacts.

h. Develop more stockholder interest.

i. Have periodic opinion research surveys made to ascertain the trend of local sentiment toward the company

and toward socialization of industry —with one basic truth being sought constantly.

If all these things are done, review them to determine progress. If not, what are the reasons?

3. A third phase—and an important one in these months ahead when America's future will be decided—includes:

a. Getting facts about the business to Congressmen and Senators. Those who would nationalize business are armed with plenty of ammunition, much of it in the shape of distorted "facts." More and more, the legislators in Washington are realizing that "our" side is the people's side.

b. Keep an alert eye on Washington.

c. Interchange experiences and ideas with other companies in the region. Regional meetings for this purpose invariably stimulate unity and many times broader-gauge thinking.

d. Support industry organizations.

In connection with interindustry activity, Laurence F. Lee, president of the Chamber of Commerce of the United States, said:

> The opportunity to participate in Production for Freedom Week is a challenge to the initiative and ingenuity of business leaders in every community and industry.
>
> Certainly there is a real need to build a broader understanding of how America is achieving a miracle of production to safeguard freedom. Such understanding does not develop automatically. Millions of Americans take our unique economic system for granted. Many are misinformed by those who take advantage of confusion and misunderstanding. If the basic facts about our economic system are to be widely understood, American business leaders must take the initiative in explaining them.

In connection with an electric industry statement regarding the railroads and nationalization, a middle western business editor commented:

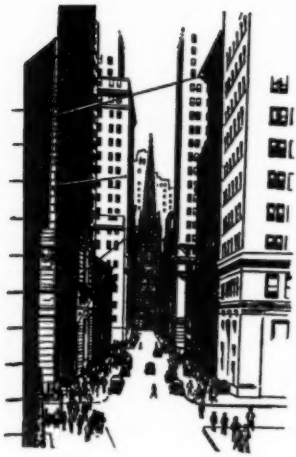
> Here is a very usual and significant statement in which responsible spokesmen for one industry sound the battle cry for another. *Maybe the whole government-business picture could be brought into better focus if more of this were done.* (Emphasis supplied.)

It it not suggested that the industry try to meet the propaganda forces arrayed against it man-for-man or dollar-for-dollar. But it is informative, and might well be provocative of some action by a future Congress, to realize that Federal operations in publicity and related activities now cost the taxpayers around $105,000,000 a year, which includes salaries of 3,600 people engaged in "publicity."

*There is always danger of complacency — a complacency which would be fatal.* The utility business can *never* let its guard down.

The years immediately past have seen something extremely inspiring in the utility industry. It has seen *verbal* courage of a high order from many, different, and unrelated company executives in every section of the country—at home, in Washington, in their own state capitols, in their own home towns, and in their company councils. They are determined to make a fight against Socialism.

The utility industry must have the courage to fight against government extravagance and waste. The people will help, if they know how to do so.



# New York Is Different

*The generalized customer relations programs established for utilities in other sections of this great country may be adapted to many of its regions, but not New York city. Its problems are unique. Normal methods do not always apply. The cliff dweller, as he is sometimes called, does not have room for all the load-promoting appliances.*

By A. BRYAN MARVIN*

Last summer, my wife and I had stopped for a traffic light on a remote state road a long way from New York. We were so far away that it was customary for cars with New York plates to honk each other in greeting when they passed on the highway.

As we waited for the light a cream convertible of late date drew alongside. The radio blared with recorded music and the top was down. A bottle-blonde on the front seat said to the driver in accents as hard as the curl of her hair: "As long as we're lost, we might as well get good and lost, is that it?"

My wife smiled. "They're from New York," she said with conviction. As the convertible roared away from us on the green light the vanishing license plate proved her right.

There was no horn toot of recognition given or requested. I could not help but wonder what impression this driver would leave in his wake, what idea of New York and New Yorkers he had given how many people from New Jersey to well west of the Mississippi.

New York's own public relations with the rest of the country are about

*For personal note, see "Pages with the Editors."

the worst of any large city's. "If a New Yorker lands in Salt Lake City with $10 in his pocket, he feels he has to give away $9 as tips to show he's a big wheel," is a standard commentary. In today's folklore, the "typical" New Yorker is the goldbrick purchaser, the victim of the countryman's wiles, the rude, narrow, and ignorant gull.

BUT the traveling New Yorker who has won his fellow city dweller this reputation is not representative. The true New Yorker is a very different sort. His manners are better for one thing. He is geared not only to city life but to New York life. The nation has a distorted perspective of this individual comparable to the warped view of the nation which the traditional New Yorker holds as illustrated by the map on page 776. (This map recently enjoyed a wide circulation in the West.)

New York is a personality as well as a locality. This has had a very definite effect on Con Edison's business of providing the metropolis with electric, gas, and steam service. While the nature of the locality has guided the company's physical development, the personality has been a factor in its policy decisions. Management rule books which obtain in other parts of the country have only a limited use in the New York market.

To the sight-seeing visitor, New York presents a nearly overwhelming physical side. Because the solid buildings are so definitely visible, they form a large part of the impression on his sensibilities.

Say what you will about the extrasensory perception of the human race, any individual feels slightly different when he is surrounded by a crowd than he does when he is comparatively alone. The visitor to New York is caught up in the crowd, a sensation to which the true New Yorker is so immune by long exposure that he is no longer conscious of it.

THE visiting observer notes that New Yorkers walk their streets in a hurry and with little apparent interest in occasional events. He sees them around the railroad terminals and in the shopping centers and they are always on the move. Their features are blank, a result of the numbing routine of commuting or the abstraction of the intent shopper. Feeling the rush and urgency of the crowd, and seeing the lack of expression in the faces, the visitor concludes that New York is a backdrop to a parade of automatons, a silk purse full of sow's ears. He gives new life to the bromide about the city's being a fine place to visit, but . . .

Actually, this first impression of the city is a statistical trick. Towering office buildings with their inscrutably blank façades are nothing but the visitor's home-town bank building raised to the *nth* degree. The shopping crowds are his local department store's customers multiplied by a factor to make the marketing areas comparable.

If he took a stand before that store back home and tried to engage in idle chatter with bustling housewives equipped with shopping lists and an urge to buy, he would receive the same treatment accorded him by the Fifth avenue clientele. If New York's twice daily wave of commuters were to

descend on any other metropolitan transportation system they would overturn the busses and lift the station itself from its foundation. In contemplating the city, the visitor all too often forgets the mathematics of the situation.

The arithmetic has been a part of the utility business in New York for a long time and the physical structure of the city has had an obvious effect on local utility service. One does not have to be an engineer to appreciate the size and complexity of the operation.

THE spreading city has engulfed generating stations originally built on its outskirts. The DC stations built at the heart of load centers have been abandoned and reconverted into factories and warehouses. The value of real estate caused electric stations to be built vertically with switching galleries piled one on the other until limitations of space and economic factors led to the introduction of subtransmission voltages and satellite installations in recent years.

Underground distribution of electricity, gas, and steam is no easy task and is complicated further in New York by the rock foundation of the city and the other subsurface occupants.

The city's streets are crowded on top with traffic and beneath the surface with overlapping and interlaced networks of water supply, communications, sewers, refrigerated brine lines, and pneumatic tubes. To get away from the surface congestion, rapid transit and vehicular facilities are tunneled under the streets, further compounding the congestion there.

Miles of cable and pipe, kilovolt amperes of generating capacity, and bricks per generating station are all things that may be reduced to paper reports. They present problems to which engineering solutions can be found. This tangible side of our business is comparable with the visible side New York presents to the visitor. The company's difficulties in this respect are not substantially different except in size and volume from the problems encountered by many other utility companies.

THE personality of New York is impossible to capture statistically. There are columns of numbers that point to parts of this aspect of the city but no algebraic formula that interprets it completely.

Three-quarters of New York's residences are apartments. The New York apartment is smaller in area and number of rooms than apartments in other American cities. This only partly explains the comparatively low average residential usage.

Hall lighting and elevator power

¶ "NEW YORK *judges everything on the basis of performance. There is only one way in which a utility company can gain the respect and confidence of the city's inhabitants: by providing them with light, heat, and power at a fair price. The city will extend no thanks to the company furnishing utility service.*"

in apartment buildings is purchased under a commercial service classification. Pro rating this consumption among the apartments would give a more realistic picture of average use.

Such a figure, however, would not show the effect of the occupied but empty apartment which is close to being a trademark of New York life. Quite early in its development the city recognized the value and importance of female help in performing its office routine. The telephone and typewriter gave the fairer sex trades and opportunities in business and offices.

THE stigma which once followed the married working woman vanished first in the large cities of the eastern seaboard. Even today the percentage of married women gainfully employed in New York is substantially above the national figure.

Add to this the tendency of humans to visit back and forth and seek entertainment offered outside the home and a meter-reading problem arises. As much as twenty years ago it was found advantageous to encourage installation of meters in apartment house basements. All too often it was impossible to gain access to individual apartments during regular working hours.

Many utilities use their meter readers as successful public relations representatives. Coming in regular contact with the customer he is a source of information, a human figure that replaces the vague and impersonal image of the corporation. In New York this approach to the customer is denied the company by the market itself. Emerging from a cellar where he has taken seventy readings, the man can hardly be expected to know which of the children scrambling on the sidewalk deserve a pat on the head because of their parents' good accounts and which deserve a frown for arrears.

IN regard to appliance promotion, the apartment renter presents a decidedly limited field. This is not because of energy costs. No New Yorker has been kept from buying a television set because it would cost about a half-cent an hour for power to operate it. In the matter of residential air conditioning, the electric charges measured in dollars per year have little effect on the family's decision to spend dollars counted in the hundreds for equipment and installation.

If the appliance is a heavy-duty type that requires reinforcement of electric risers inside the building, the tenant is going to find his landlord in a most unreceptive mood. If he is stubborn enough to secure the owner's permission, contractors' costs for installing the new capacity will prove a further deterrent, running from two to even eight and ten times the cost of the appliance itself.

New York apartment life techniques do away with a multitude of chores Americans generally do around their homes. A Czech professional man, familiar with all the capitals of Western Europe, recently expressed his love of New York by saying: "It is the only city I know where at any time of the day or night I can find an eating place to my liking open for business."

Restaurants, laundries, seamstresses, household cleaning, and serv-

A New Yorker's Idea of THE UNITED STATES OF AMERICA
Copyright by Daniel K. Wallingford, Middletown, New York
THE City of NEW YORK is unique—it is a nation within a NATION. Its inhabitants, of which there are some 8,000,000 are called NEW YORKERS. This MAP is presented, after patient research, as a composite of the NEW YORKERS' ideas concerning THE UNITED STATES . . .
LET THEM SPEAK
We have cousins in the West, cousins in Wilmington, Delaware.
He is moving to Dallas so he can buy his little Father in Ohio . . . . .
Indiana was an Indian Reservation until just recently, wasn't it?
So you are moving to Indianapolis; you must let me give you a letter to my niece in Minneapolis.
Oh yes! he entered the Marathon Swim from Los Angeles to Hawaii . . . . .
NEW YORK
BROOKLYN
QUEENS
JERSEY
VIRGINIA
GEORGIA
LOUISIANA
GULF OF MEXICO
CANADIAN NORTH WEST
OREGON
WASHINGTON
UTAH
CALIFORNIA
ARIZONA
MEXICO
SOUTH SEA

ice companies exist in profusion to perform household tasks on request. Landlords mow what lawns there are around the apartment buildings and handy men fix the stuck windows and leaking gutters. The New York man and woman find no obstacle in keeping away from the material side of home operation and maintenance. The charges, direct and indirect, are included in the cost of New York living and become a part of their life pattern like the crowd about them.

THE primary characteristic of New York's industrial and commercial enterprises is their diversification. The variety is as amazing as the human will to work. Wearing apparel and accessories is the largest classification, followed by printing and publishing, in which New York leads the world.

Small machine shops turn out subcontracted parts for Air Force planes and retool overnight to produce ingenious devices for the nation's magicians. Diamonds are split with precision and rocks are crushed for construction purposes.

In the advertising agencies and affiliated services humans engage in a word game of unparalleled complexity, an enormous crossword puzzle with no definitions to guide the player. Not a mile from the hub of this activity, which is as close to abstract intelligence as the business world can get, hammers may be heard ringing on anvils. There is no spreading chestnut tree but blacksmiths' forges glow as wrought iron garden furniture is forced into shape with a display of muscular energy.

New York's harbor and financial activities are world renowned. The city performs in its hive-like office buildings a huge share of the nation's paper work, moving pollen and honey from file to file and distributing it between states and even nations.

The lack of dependence on any single industry or handful of plants affects utility operations in two ways. It makes for stability and it contributes to the make-up of the New York personality, which in turn bears on management decisions.

First of all, there is little danger of having the level of commercial and industrial sales chopped back by economic or individual human decisions. Assured a predictable level of such sales, the utility is able, for example, to retire equipment for economic reasons, with a fair guaranty that the new replacement capacity will not be idled by arbitrary actions and left in the stable to eat up its efficiency with maintenance charges.

In the second place, the variety of industry and profitable activity creates a spectrum of opportunity constantly held before the worker and his family regardless of their status in the business world. The possible range of openings becomes as much a part of the New Yorker's thinking as the apartment life and the crowds around him.

IF there is a common denominator of life in this truly cosmopolitan city and a key to its personality, it is individual freedom. For those desiring human companionship, the city offers a spectacular assortment of individuals from whom to choose. If the life of a recluse is desired, the city has unlimited facilities.

Many artists and writers gather their material throughout the nation but seek out the city when the labor pangs of creation are on them, because it is only there in the welter of humanity that it is possible to be really alone.

The city offers its residents an assortment of hard work if they want it, and at the other end of the scale an array of beachcombing jobs if they prefer that type of employment.

By making it possible to choose private lives and work classification, the city offers the individual his own freedom. He has only to reach out and take hold of it.

The shades of discrimination vanish most easily in New York. The rivalries between religious and fraternal groups, for instance, are completely lost in the shuffle. The pond is so wide that no one can be a big frog. The chauffeur-driven tycoon can get involved in a traffic jam beside the taxi-borne messenger boy and neither driver gives or expects any quarter.

New York's method of classifying individuals has to do with ability. A capacity for achievement is the sole prerequisite for success. High school and even college graduates are often worried about their chances for "breaking through," getting past the economic barriers that keep them from wealth, position, and security.

New York has many such barriers in progressive layers. Residential addresses, business and social connections, even details such as clothes can be complicated matters. But the password at each New York barrier is the same: ability. And there are many forms of ability. Any city, and New York to a marked degree, is a collection of specialists.

IF freedom to show ability is the key to New York's personality, competition is the lock in which it must be turned. In every classification the entrants are numerous, and in this respect all New Yorkers show their distinction from their counterparts in the rest of the country. New York's rules are clearly drawn and merciless in their operation.

Asked to select a single benefit of life in New York as compared with a more rural setting, I would choose individual freedom. It allows human nature to be intensely human. While there are certain drawbacks to free expression when the right is abused, individual freedom sharpened by competition has enabled New York to rise to unforeseen heights of expression.

Every year searching minds come to New York from the rest of the country, voluntarily facing the hazards of uncertainty and loneliness. That they find what they seek is

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shown by the fact that they stay. Except for a seashore or mountain vacation, they stay all year. They are not the ones that travel the country lending credence to the "typical New Yorker" stories.

The New Yorker expects service when he wants it and he couldn't care less for it when he has no need. He is a busy individual. What with work, family, and social connections, and the abundance of energy outlets in the form of churches, clubs, and groups, he has a wealth of interests clamoring for his attention.

BEING the market it is, New York is a focal point for many selling campaigns and money flows through the typical New York budget at a faster rate than prevails in the rest of the country. The abundance of inducements has caused New Yorkers to develop a horny layer of sales resistance, both to products and ideas. It has given an outward veneer of unconcern to his appearance and apparent action.

That this is only a veneer is shown by the many human things which happen each day on every block of the city. Utility construction crews have come upon lost, bedraggled kittens in the very heart of Manhattan and have taken the time to send for milk and a carton in which the animal could rest. Any individual who collapses on a New York street will get aid just as quickly as if he fell ill in Omaha or Fort Worth. The city's heart beats just as strongly as humanity's despite the considerable amount of bone and muscle in the metropolitan frame.

If a New Yorker doesn't want to make friends, that is his privilege, and no power on earth is strong enough to break through his reserve. Several times in recent years Con Edison has let itself be talked into sponsoring contests in the city. Essays and quizzes focused attention on the company and the response astounded even the experts. While the prizes were substantial, the number of contestants was insignificant. Organized to handle thousands of replies a day, the staff found itself instead with ten or twenty pieces of paper to push around.

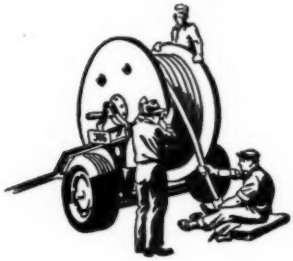
The company discovered the hard way that the New Yorker does not respond to this approach, which has proved so successful in other parts of the country.

NEW YORK judges everything on the basis of performance. There is only one way in which a utility company can gain the respect and confidence of the city's inhabitants: by providing them with light, heat, and power at a fair price.

The city will extend no thanks to the company furnishing utility service. Consumers accept the electric outlet, gas jet, and hot radiator as appurtenances the way they accept the apartment life and the city.

Because of the emphasis placed on this single aspect of utility activity, side issues become relatively unimportant. They fade from problems in black and white into various shades of grey.

In the same way that New Yorkers have problems that differ from outsiders', Con Edison has problems distinct from other utilities that require special treatment.



# Better Communications For Utilities

*Bell system companies are making available a custom-made combination of high-quality special communication services to electric power and pipeline utilities, as well as the railroads. Here is an account of how the telephone companies are using their "know-how" in special preventive maintenance, plus new and better circuits and devices to render a reliable system-wide communications service for these other public utility systems. Microwave and other new "tools" are being included in this custom "package" designed for each utility system's requirements.*

By RUSSEL T. KING*

THE electric clock on the kitchen wall said it was 5 P. M. Mrs. Harry P. Adams, housewife, casually noted the time as she pushed the roast into a yawning oven. Without giving it a second thought, Mrs. Adams knew that by the time Harry stepped off the 6:31 train from Chicago the meat would be done to a turn, just the way he liked it.

Mrs. Adams was not alone in her culinary confidence. At precisely that moment, thousands of housewives in the same time zone were setting the stage for a pleasant evening meal. Few of them stopped to realize that behind this scene of comfort and convenience stands a fabulous genii—modern communications, the nerve system of smooth, well co-ordinated utility operations.

The gas for the kitchen stove left a Texas well on schedule not many hours before—the electric energy which operated the clock, and the other appliances so vital to the comfort of Harry's home, was generated at a power plant, located near a coal mine or a dammed-up river hundreds of miles away. As the diesel train moved swiftly across the countryside from Chicago the same genii of communications was busily at work. Harry would indeed be home in time for dinner, the way he liked it.

It is relatively easy to visualize the importance in modern-day living of the vast operations of pipelines, power companies, and railroads. The extensive use of their products and services

*For personal note, see "Pages with the Editors."

by the American people and the thousands of small and large industries whose daily output contribute so much to our protection, comfort, and well-being is so obvious. But it is sometimes difficult to appreciate that the coordinated efficiency and reliability of these utility services require fast, dependable, 24-hour-a-day communications—communications not only between people but between sensitive, electronic devices.

ONE has to go behind the scenes to see the myriad of precise engineering operations necessary to get clean even-pressure gas from Texas for Mrs. Adams' kitchen stove, to provide gas or oil for the Adams' furnace, and electricity accurately controlled as to frequency and voltage for their clock and other appliances—or to provide for the many uses of electricity by industry where changes in speed affect the quality and rate of production of a product.

Utility company communications are generally of two kinds. One involves ordinary day-to-day business transactions between the public and the utility company and within the utility organization over facilities similar to those used by all other subscribers. The other concerns highly specialized requirements relating to the utility's internal operations. In both cases these needs can be, and are being, met completely by the telephone companies under jurisdiction of regulatory bodies.

There was little need for communications to control the operations of the nation's first commercial pipeline in 1863. The line was a 2-inch iron pipe, laid in northwestern Pennsylvania, to carry crude oil between the Tarr farm and the Humbolt refinery, a distance of two and a half miles. Its success created consternation among the teamsters who were charging three to five dollars a barrel to cart oil about the same distance.

But the pyramiding demand for oil and gas products eventually started the underground transportation system on its way and today the network of pipelines which carries gas, crude oil, and refinery products to homes, plants, and factories in America exceeds 533,000 miles in length and is growing at the rate of about 20,000 miles a year.

THESE sprawling lines employ enough pipe to circle the globe over twenty times, yet the chances are that even in localities where pump or compressor stations are situated, the average citizen is probably only vaguely aware of their significance. For these stations house machinery that never stops running — machinery which controls the flow and the quality of natural gas and petroleum products.

To insure efficiency of operations all activities must be carefully coordinated from a central dispatching point equipped with a fast, dependable communications system. Initially, the pipeline companies often provided their own communications system, located along their rights of way. Today, as these systems need additions and replacements, more of the pipeline companies are turning to the commercial telephone companies for communications facilities.

The generation of electric power and its use in the United States dates

back to the late 1870's. Initially, generation was limited in scope by the low voltages of the DC distribution systems. The use of electric power was confined principally to cities where one power station could serve a number of customers. The first alternating current system in America using transformers was put in service at Great Barrington, Massachusetts, in 1886 to serve about twenty customers, including the local telephone office. Since early operations were limited, communications facilities were provided by wires added to the power companies' pole lines along their rights of way. As the power companies expanded and improved techniques made the transmission of electric energy over longer distances practicable, there was an increasing need for additional communications facilities. In the 1920's carrier communications systems were developed which made it possible to transmit communications over the same wires used to carry power. This new medium helped to meet expanding communications requirements of the power companies for several years.

Now, however, with the constant increase in power usage and improvements in the transmission of electric energy, larger and more economically operated power plants are being located nearer sources of fuel supply. Power companies are interconnecting to form power pools for the exchange of power, and the complexity of communications requirements has multiplied.

Such interconnections, properly controlled by high-grade and necessarily extensive and often complex communications systems, permit better use of reserve capacities and provide a maximum degree of reliability of power to individual plants or areas. The loss of power resulting from the failure of a power plant, is cared for by the transfer of energy from other power plants in the interconnected network. Temporary shutdown of plants for maintenance and for other reasons is also permitted by these interconnections.

Wilmington, Delaware, and Atlantic City, New Jersey, exemplify the benefits gained through the flexibility of power pools. During the day, generating stations produce huge quantities of power for Wilmington industries. At night when these industries shut down, the output of power is available to light up Atlantic City's

¶ WHILE *the present average percentage 24-hour reliability of telephone company circuits provided for utility customers is high—better than 99.5 for the service and dispatch points of each customer served—the telephone companies are by no means content. Critical points of operation are visited frequently by telephone company plant and commercial people to observe the condition and operations of telephone facilities and to obtain at firsthand an intimate and complete knowledge of the customer's needs and the reaction of his field people to the service being furnished.*

gay white way, its hotels, boardwalk, and piers.

Today in many sections of the country interconnection of power companies is an accomplished fact and in some areas plans are being developed to interconnect such systems with one or more similar interconnected systems. These systems are supported by a spider web of channels for voice and written communications, telemetering, protective relaying, selective signaling, and supervisory, frequency, and load controls.

The power industry has estimated that present plans of expansion would require a tenfold increase in communications facilities in the next five to ten years. The large amounts of capital required for such expansion and the increasing complexities of the communications systems required have led more and more of the power companies to decide against providing their own communications facilities. Furthermore, power line carrier communications systems have limitations as to capacity and freedom from interference which restrict their general expansion. The telephone companies, realizing the needs of these customers, are working closely with them to provide the best communications facilities obtainable.

UNLIKE the pipeline and power companies, the railroads from almost their earliest beginnings had a right-of-way communications requirement. The expansion of the railroads was coincident with the invention and development of telegraph service and each complemented the other. The railroads required wire communication in order to operate effectively and the telegraph industry required lines between distant cities and towns. As the railroads were being built, telegraph lines were strung paralled to the rights of way. In return for the use of the right of way, wire facilities were allocated to the railroads for their exclusive use.

In time, the railroads paralleled the telegraph facilities with telephone channels, building up complex communications systems which today represent a total investment of hundreds of millions of dollars.

WITH the increasing costs of operations and the need for large amounts of capital to introduce more efficient and economical equipment and methods, the railroads are taking a new look at their communications requirements. Mobile radio systems are being used to facilitate switching in yard operations, train-to-train, end-to-end of train, and train-to-wayside communications. In several cases industrial television is under trial for checking freight car numbers and the condition of cars and equipment on moving trains. The telephone companies have long co-operated with the railroads in working out solutions to their communications problems and are prepared to provide whatever communications facilities the railroads need.

Since the public interest is so heavily at stake, the communications circuits of pipelines, power companies, and railroads must provide dependability and continuity of service. For example, if a communications circuit is interrupted even for a short period the flow of gas or fuel oil to a community through a pipeline might be

## Advantages of Leasing Telephone Company Services

*MANY utility company executives recognize that there are substantial advantages in leasing communications from the telephone companies:*

*Avoids duplication in plant.*

*Results in saving of space requirements and in use of critical materials.*

*Improves reliability;* E.G., *greater number of alternate routes made possible.*

*Provides much greater flexibility.*

*Provides greater convenience.*

*Personnel confined to major job.*

curtailed, or the flow of electrical power to a community might be significantly altered, or the continuity of over-all train operations affected.

THE telephone companies recognize that utilities need high-quality, reliable communications. They are using all their "know-how" in special preventive maintenance and are employing new and better circuits and devices as they become available. They are insuring a high continuity of service by careful planning of alternate routings as appropriate in the event of interruptions. While the present average percentage of 24-hour availability of telephone company circuits to these customers is high—better than 99.5 for the service and dispatch points of each customer served—the telephone companies are by no means content. Critical points of operation are visited frequently by telephone company plant and commercial people to observe the condition and operations of telephone facilities. They are seeking to obtain at firsthand an intimate and complete knowledge of the customer's needs and the reaction of his field people to the service being furnished.

Pipelines, power companies, and railroads have unusual communications requirements due to their long rights of way through territory which is sometimes remote and relatively inaccessible, where telephone companies may not be operating. In earlier days, frequently the only practicable way of

meeting these requirements was for the so called right-of-way companies to provide their own communications along their rights of way—interconnecting with telephone company facilities under operating agreements, as required.

Over the years, however, telephone company facilities have expanded tremendously — particularly since World War II. (See chart, page 786.) The Bell system now has more than ten times the toll circuit miles in its plant that it had in 1925 and about four times that of 1940 or over 30,000,000 miles. Whereas in 1925 over one-half the plant was in open wire, today, open wire comprises less than one-fifth of the mileage. Of the circuit miles in cable sheath about 70 per cent are underground. Not only is the network more extensive but it is more reliable. The telephone companies are in far better position to supply the services needed by utilities, and desire to do so to the fullest extent practicable.

To provide better communications, the telephone companies are endeavoring to meet individual requirements with the "tools" that will furnish the best and most dependable service at reasonable cost to the customer. One of these many "tools" is radio, a relative newcomer.

In the field of point-to-point radio, radio relay is proving of great value in providing communications, especially over longer hauls where large numbers of circuits are required.

The Bell telephone companies have had considerable experience with radio relay. The Bell Laboratories have designed the systems which are being used on the longer transcontinental and other routes to provide television and other communications channels. These systems are manufactured and installed by the Western Electric Company and the Bell system companies engineer, operate, and maintain them. By the end of 1952, the telephone companies will have about a million miles of telephone circuits over radio relay.

The Bell telephone companies also use microwave radio systems over routes where hauls are short and channel requirements are small in cases where this appears to be the best method of furnishing the desired service, considering both reliability and cost. In addition, a little brother to the Bell system transcontinental radio relay system in the VHF band provides telephone service to a number of locations. For example, a new petroleum field in Utah which an oil company is undertaking to "prove in." The field is a distance of 77 miles from the nearest telephone lines. Several Bell system companies have made radio installations paralleling open-wire lines, to provide added circuits. Since radio circuits are subject to hazards quite different from those affecting wire facilities, this diversification of facilities provides added protection against service interruption.

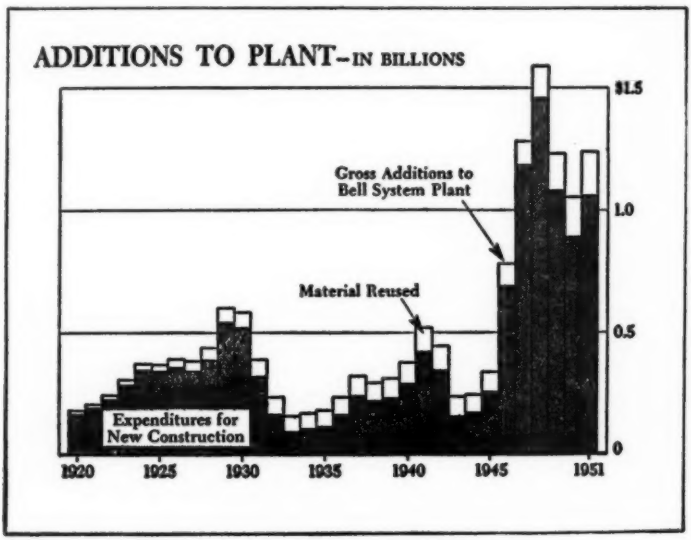
As with many new developments microwave radio is a fast-changing art and, as a result, obsolescence is a factor to be considered before selecting it as the "tool" to do a particular communications job. As an example, since the installation of the New York-Boston radio relay system in 1947—the first successful longer-haul system—there have been changes in

the antennae—new types of vacuum tubes have been developed—new circuit and equipment arrangements designed—and changes have been made in the gas pressure systems used on the wave guides. This all has happened in less than five years and undoubtedly the years ahead will bring many new developments.

THE Bell telephone companies feel that microwave can play a real part in providing communications. However, it is only one type of facility among many. Microwave is generally employed for point-to-point services and uses extremely high frequencies with wave lengths varying from two to ten inches in size. These short waves, like a narrow ribbon of light, are beamed from tower to tower, generally at distances between 25 to 35 miles. At each tower the strength of the signal is rebuilt and the beam projected to the next receiving point. The art is developing and changing rapidly.

The telephone companies are also extending their cable network at a very rapid rate, using both coaxial and multiconductor types for carrier and voice frequency. And beyond the microwave, and cable carrier systems, there are other things in the offing. For example, the Bell Laboratories are conducting research work on a new system, which may provide even greater band widths than do present radio relay systems. This is an extremely high-frequency wave guide system which may make possible the transmission of a band width of several thousand megacycles over long distances through pipe. Research has advanced sufficiently to make them believe that this new facility has a great deal of promise.

As these new developments occur and prove economically attractive, the telephone companies meld them into their plant as rapidly as they become



available. Telephone company customers thereby automatically benefit from improvements in the communications art.

MOBILE radio facilities have become virtually a must to utilities in their operations both in cities and along their rights of way. Mobile radio has increased the flexibility of operations. In addition to the general mobile telephone service, now available to some 12,000 vehicles including watercraft, locomotives, and heavy movable equipment, the telephone companies provide private mobile radio systems at reasonable installation and monthly charges. They have over 400 such systems under contract serving nearly 6,000 mobile units.

Provision by the telephone companies of the best "tools" obtainable to meet customer requirements includes not only the circuits used to carry the communications but also specially built instrumentalities and specially designed circuit arrangements, such as switchboards and dispatcher turrets, selective signaling equipments, special circuits for remote control and metering, and so on.

One recent example is a newly designed dispatcher's turret soon to be installed for the Bonneville Power Administration. BPA had a requirement for a dispatching turret, small enough in size to be operated by one man but capable of handling 80 to 100 lines with a number of special operating features. In view of the possible application of such turrets to other power company situations, engineering work by a team of Pacific Telephone & Telegraph Company, American Telephone and Telegraph Company, and Bell Laboratories experts in consultation with BPA, was rushed to completion. Arrangements were made for local assembly by the Pacific Company of the equipments needed for the customer's service. Later this turret will be standardized and made available through Western Electric for other customers with similar needs.

IN several cases pipeline and power companies are being furnished circuits and selective signaling arrangements for remote control and metering purposes. As a result, dispatchers are able to select and read meters, start and stop pumps and motors, open and close valves, and obtain indications of switch positions at distant points—in fact they can do remotely just about anything human beings on the spot can do. These developments constitute further evidence of the desire of the telephone companies to help solve the communications problems of their sister utilities, thus affording an excellent illustration of the close interdependence of different types of regulated enterprises in meeting the needs of the public they exist to serve.

In view of the importance of better communications, telephone company representatives have been calling on the pipelines, power companies, and railroads frequently to offer assistance in staying ahead of changing communications requirements. Such visits have been supported by telephone company officers and operating heads who have, through personal contacts with executives of the utilities, affirmed the desire of the telephone companies to meet their communications needs fully.

As a result of those efforts, comprehensive studies of message traffic and operational requirements are now under way with more than 50 major pipeline and power companies and railroads. These studies are designed to help the customer obtain the best use of exchange, toll message services and private line facilities. They require many man-hours of intensive study and analysis by experts.

A STUDY recently completed for one of the largest petroleum enterprises in the United States resulted in a decision by the management to sell its communications plant to the telephone companies and to "lease" facilities for all future requirements.

The impartial findings of this study clearly supported the decision of the utility company to devote its capital and man power to the bread and butter items of its business and to rely on the specially qualified organization of the telephone companies to meet the increasing complexities of its communications.

While these studies often lead to changes, additions, and rearrangements of the utility's facilities, they are conducted primarily as a part of the telephone companies' contribution to better communications and do not place these industries under any obligation to make the changes or accept the recommendations suggested.

These studies and the over-all efforts of the telephone companies are especially timely since they recognize the complexities of pipeline, power company, and railroad communications, and make available the "know-how" of the telephone industry, backed by seventy-five years of experience, at a time when the utilities face many problems of growth.

The Bell telephone companies are confident that, in co-operation with the connecting independent telephone companies, they can generally meet the right-of-way communications requirements in a manner thoroughly satisfactory to these customers and are prepared to take whatever steps are indicated to do so.

As indicated earlier, there are some situations where some of the communications facilities are provided by the customer himself. Where the matter of interconnection is involved with such privately owned equipment, the Bell system companies have been reviewing the most appropriate arrangements with committees representing the pipelines, power companies, and railroads, as well as with individual right-of-way companies.

By now the Adams have finished their well-cooked meal. The dishes are being washed with the help of electricity and Junior is safely and cozily tucked under an electric blanket soundly asleep. Mr. Adams, in the front room has his feet up on the ottoman and Mrs. Adams sits comfortably near by, watching a television show coming from nearly 3,000 miles away. The cold November winds outside cannot disturb the warmth of their household—thanks to gas or oil not long ago in Texas and electricity from some distant power-generating station. These and many other conveniences for the Adams family everywhere are here to stay—with promise of more to come.

# Washington and the Utilities

## *FPC a Weather Vane?*

THE result of the recent election has made all the more provocative the future membership of the Federal Power Commission. There is, of course, an interim appointment which Chairman Buchanan now holds, and which President Truman could conceivably send to the next Congress during the brief period between the meeting of the 83rd Congress and the inauguration of President Eisenhower. Another vacancy looms in June. It is to be expected politically that General Eisenhower will not permit Chairman Buchanan's appointment to stand after President Truman leaves office.

With the repeated complaints from Wall Street and the natural gas pipeline companies that FPC policies are putting a blight on the financial future of the industry, the possible appointment of a new chairman to the FPC becomes a bigger questionmark than ever since the votes were counted. While the policies of the FPC, let alone the entire new administration—with respect to utilities—would hardly seem to turn on that of an individual member, observers are beginning to regard it as a weather vane.

What the new President does about Chairman Buchanan, or his successor, might be an indication of the new administration's sensitiveness (or lack of it) to the alleged burdens of one important branch of the public utility family. This of course may be the rankest sort of overemphasis and oversimplification. But political observers, who have to make a living like everybody else, have been running around in circles ever since the great decision on November 4th, catching each straw in the wind as a possible omen of future policy. The FPC just happens to be in a position to catch an extraordinary amount of attention along these lines.

Forthcoming appointments of a new Secretary of Interior and a new Secretary of Agriculture (with his guardianship of the Rural Electrification Administration) will, of course, be important and tangible clews to the new administration's temper towards operating industries. But they are certainly getting plenty of attention also. In fact, the favorite sport these days in the nation's capital is picking the new Cabinet and deciding which of the underlings and second-string officials are likely to go or remain, or possibly move up when the name on the front office door is changed next January in all the main departments.

## *St. Lawrence Moves On*

ONE controversial item which did not even wait for the election to be decided, as far as making a long forward step was concerned, was the St. Lawrence power development program. On October 29th, the way was opened for the FPC to authorize New York state to develop St. Lawrence power jointly with the Province of Ontario. The International Joint Commission, which regulates use of boundary waters between the two countries, cleared the way for the United States and Canada to develop the international river. The United States government is expected to name New York state as its partner in the project, assuming that the FPC will now grant the pending application of the New York State Power Authority for a license. In authorizing the development, the com-

mission said that Gut dam, located below Ogdensburg, New York, across from Cardinal, Ontario, will be removed immediately. The joint power program is estimated to cost $400,000,000, with both parties sharing the cost equally. The Province of Ontario already has been named for the Canadian part of the development.

The 6-man international commission had been holding sessions on the applications in the Federal Security Agency building in Washington, D. C. In favor of approval was Dr. N. R. Danielian, executive vice president of the Great Lakes-St. Lawrence Association and long-time St. Lawrence seaway and power project lobbyist. He argued that in view of the years of study devoted to the St. Lawrence (by Congress) "no one can successfully argue now that the approval of the applications before the commission would be hasty or ill-considered." Approval by the International Joint Commission was required before actual construction authorization by FPC.

SECRETARY of Interior Oscar L. Chapman, in a new move to block development of St. Lawrence river power by the New York State Power Authority, on October 29th prevailed upon the FPC to extend from October 31st to December 1st the deadline for filing protests against the authority's petition to construct giant power plants and dams at Massena, New York.

This move was denounced by John E. Burton, chairman of the authority, as "flagrant interference by the Interior Department in the affairs of New York state and the Northeast." "It is nothing more than an attempt to impose a Federal power system on the Northeast," Mr. Burton said. "We object strenuously and we will have plenty to say at the hearings."

The decision to postpone the deadline in protests against approval of the authority's petition or requests for public hearings was taken by Leon M. Fuquay, secretary of the FPC, on Secretary Chapman's "recommendation." Thomas C. Buchanan, commission chairman, said Mr. Fuquay's action was approved by the commission members.

## *AEC Plant Financing*

THE Securities and Exchange Commission has been urged to approve quickly a $20,000,000 stock issue so a combine of private power companies can begin construction of two huge new generating plants along the Ohio river before bad weather sets in.

The two plants will cost between $370,000,000 and $440,000,000. They will supply the 1,800,000 kilowatts of power to run the Atomic Energy Commission's $1,219,000,000 production plant to be built in Pike county, Ohio.

Philip Sporn, head of the 15-utility company group, told an SEC examiner: "If we don't get started in the next three weeks, we'll be in serious trouble. We have lost most of the 1952 construction weather. I feel it is highly important to get in some construction this year, particularly excavation."

Mr. Sporn has announced that the sites of the two plants will be near Madison, Indiana, and Gallipolis, Ohio. Construction of the plant in Ohio will be handled by the Ohio Valley Electric Corporation. The Indiana plant will be handled by an OVEC subsidiary, the Indiana-Kentucky Electric Corporation. At the peak of construction, a total of nearly 5,500 workers will be employed. Construction will require about four years.

The plants will be the world's two largest steam-electric generating stations, according to advance statements. Their combined capacity will be 2,200,000 kilowatts, of which 1,800,000 kilowatts have been contracted for by AEC for a 25-year period. This represents the largest single block of power ever supplied to a single customer in the history of the electric power industry. During abnormal emergencies this capacity will be further supplemented by 200,000 kilowatts from the sponsoring companies' systems. Power generated at the two

plants will be delivered over 330,000-volt transmission lines, to be constructed to link the generating stations to the AEC project. This network will equal the highest voltage now planned anywhere in the nation. Present plans call for four 330,000-volt double circuits to the AEC project, two from each power plant.

## *Northwest Power Limitation Order*

DEFENSE ELECTRIC POWER ADMINISTRATION announced on October 27th that it has taken steps to protect defense production in the Pacific Northwest area by the issuance of DEPA Order EO-5, effective October 29, 1952.

DEPA Order EO-5 restricts electric utilities of the region, which are now undergoing a period of water shortage, from delivering electric power to any new customer in the area using in excess of 50,000 kilowatt hours per week under any new contract entered into after September 1, 1952.

DEPA emphasizes the fact that EO-5 is not to be confused with the proposed Order EO-4A which, if issued, will impose general limitations on the use of electric power throughout the entire Pacific Northwest area affected by the water shortage. EO-4A, states DEPA, has not been signed nor issued and is still being considered in rough draft form by the electric utilities of the area. The utilities and DEPA are agreed that DEPA Order EO-4A will not be issued unless the water and weather conditions in the area make it absolutely necessary.

With respect to the issuance of EO-5, DEPA explains that the expected demands for electric power in the Pacific Northwest exceed the supply during the fall and winter, a situation that has existed for several years and that threatens defense production in the area this year. To alleviate this situation and thereby assure defense production, electric utilities of the region have refrained voluntarily from taking on new large industrial loads on a firm and continuous basis. Arrangements for such large loads, as a result, are usually made to be served on an interruptible basis.

WHEN the likelihood of an electric power shortage this fall and winter became apparent at the end of August, the electric utilities of the Pacific Northwest area began to cut off their customers whose contracts permitted interruption or termination. This action has made unnecessary up to the present any rationing to customers being served firm loads, because electric utilities having some excess power are making it available to the utilities in short supply.

## *OPS Forums and the Utilities*

EVEN before the outcome of the recent election, the Office of Price Stabilization had worked out an approach for "public participation" in OPS policy discussions. If it is carried on far enough, it might even involve a revival of OPS interest in public utility rate cases. Just before the election, OPS Chief R. I. Woods unveiled his plan — which had been formulated during recent months — for establishing local price stabilization boards throughout the country "to give the American people a chance to make price controls more effective in their own communities."

Boards will be set up initially in 85 cities where OPS now has regional or branch offices. No such establishment will take place until after the election to avoid criticism of partisan inspiration. But a secondary objective is seen in a move for "grass-roots" support for OPS, which otherwise dies next April, unless renewed by Congress.

The public utility could, incidentally, come into this picture if such local boards are used as forums for the expression of views by "citizens' groups" in pending utility rate cases. It is obvious that such discussions would be spontaneous and voluntary and would not depend on any statutory power (or lack of power) of OPS to intervene in the actual rate cases. The idea would be to stimulate talk rather than action.

# Exchange Calls And Gossip

## *USITA Holds Fifty-fifth Annual Meeting*

THE problem of backward looking rate control standards dominated the proceedings of the United States Independent Telephone Association's fifty-fifth annual meeting held last month in Chicago. The association's retiring president, L. W. Hill, president of the Carolina Telephone & Telegraph Company, pointed to the constantly rising demand for telephone service and the lack of revenue dollars to make investment in additional plant attractive as the biggest hurdle facing the telephone industry today. Denouncing "backward-looking standards of rate control," Hill stated:

> When a regulatory commission fixes the rates for a telephone company on the basis of the cost of capital to that company a year ago, or two years ago, we are getting a backward-looking brand of rate control. We all know the cost of money was cheaper one or two years ago than it is today. And if the inflationary spiral continues, it is likely to cost still more a year or more from today.

If such a standard of rate control is not modified, Hill warned, eventually it will drive away not only the smart investors but the investors who are not so smart. "This discouragement of investment in public utility operations, especially the telephone business, comes just at the time when so many of our companies are sorely in need of new capital to expand and improve plant facilities to meet our service demands," he said. Hill acknowledged that he knew of no commission which would deliberately impair a company's ability to fulfill its service obligations by withholding rate relief and laid much of the industry's difficulties on its own failure to make a good case for itself before regulatory commissions.

IN his comments on the Rural Electrification Administration's rural telephone program, Hill said "one of the problems which I earnestly hope will be cleared up in the near future is the apparent zeal of the REA in Washington to finance co-operative operations which tend to absorb or compete with existing private company operations."

"Most disturbing of all to me," he continued, "is the philosophy concerning area competition in the telephone business displayed by those in charge of administering REA. . . . Mr. Wickard is reputed to have flatly rejected what I have long supposed to have been a well-established guiding principle of public utility regulation in this country; namely, that the public utility business by its very nature should be a protected territorial monopoly, in which commission regulation is substituted for competition we find in nonutility business." Although Wickard has denied that REA is trying to create more competition for the telephone companies, Hill said "it seems to me very strange that the old idea of dog-eat-dog competition, service area battles with all the wasteful duplication of facilities, should be revived under the guise of giving the subscribing public a better break."

Hill said one job of the telephone industry should be to seek an administration of REA loans along lines intended by Congress. "The rural telephone loan law was not initiated to spread competi-

tion," he insisted, "nor to launch and expand the co-operative movement, *per se*, in the telephone business. It was to assist the telephone industry to bring service to the farmer or to improve the service he already had. I hope that we can work out a better understanding about REA loan operations along these lines, in the future," he added.

In his report to the convention on Washington affairs, Clyde S. Bailey, USITA executive vice president, revealed that plant investment of independent telephone companies increased during the last ten years from a half-billion dollars to $1.3 billion, and that the number of independent telephones increased from 3,025,000 in 1941 to 8,200,000 at the end of 1951. Gross operating revenues, he said, increased from $125,000,000 to more than $300,000,000. He predicted that by the end of the next ten years independent stations will reach the $10,000,000 mark with a plant investment of at least $2 billion.

Commenting on the need for a sound approach to the pricing of utility services, Bailey stated:

> I am quick to concede, if not allege, that commissions on the whole have shown a realistic understanding of the problems confronting them. The record of some public service commissions, on the other hand, is hardly such as to inspire in us any sublime faith in the infallibility of some of our public servants. Merely because they are invested with quasi legislative powers does not in itself magically endow them with the necessary wisdom to deal with the complicated, vexatious economic, engineering, traffic, and accounting matters that are encountered in the trial of a rate case.

Bailey called on the commissions to make adjustments in their procedures so as to give better recognition to the problems faced by a utility in time of inflation and further suggested that they take adequate measures to avoid the delays "that have been the subject of so much criticism in recent times."

Arthur E. Nelson, St. Paul, Minnesota, lawyer, and former U. S. Senator from Minnesota, told the USITA convention that "the so-called net investment theory—that is, finding the rate base by deducting the depreciation reserve from the original cost—has no place in an inflationary economy." According to Nelson, "such a theory is neither fair nor realistic and works to the disadvantage of the owners of utilities in their efforts to obtain capital under today's expanding economy."

The nature of depreciation, said Nelson, has been clouded by the accounting concept which seeks to anticipate or reflect in dollars the probable extent of future depreciation. To accomplish this, corporations set aside a portion of their annual earnings as a depreciation reserve. But the amount reserved has not been, and is not represented as having any direct relation in fact to the actual decline in value. "The amount of depreciation actually existing can be determined only by a physical examination of the property," he said. "The depreciation reserve is no evidence of the factual extent of depreciation and is not an element to be considered in the fixing of value for ratemaking purposes. Furthermore, depreciation in the property when found must be deducted from the present-day reproduction cost of the property and not from *original cost* in determining such value. The original cost in dollars—that is, the number of dollars—does not depreciate. It is property which depreciates."

Nelson warned that unless commissions and courts orient their thinking to the economy of today and provide in their orders for rates to utilities which will give a fair return for the future, they must accept a large share of the responsibility for ultimate failure of utilities and especially independent telephone companies to obtain funds for extensions and improvements and to give the public the service to which it is entitled.

The directors of USITA elected Edwin M. Blakeslee, president of the Associated Telephone Company, Ltd., Santa Monica, California, to succeed L. W. Hill as their chief executive.

# Financial News and Comment

By OWEN ELY

## *Gas Industry Worries over FPC's "Cost of Money" Rate Theory*

THERE has been considerable recent discussion of the current FPC regulatory policy (which the commission is trying to make standard practice in its numerous rate cases) in financial circles and among natural gas executives. In fact, it might not be an exaggeration to state that this was the keynote of the off-the-record discussions at the financial forum of the American Gas Association held at Atlantic City, October 24th and 25th.

In a talk before the New York Society of Security Analysts on October 22nd, President Paul Kayser of El Paso Natural Gas Company gave his reaction to FPC Chairman Buchanan's recent address before the same group on October 8th. (See comment in this department in the November 6th issue.) Mr. Kayser pointed out that natural gas is a closely co-ordinated industry, since gas is brought directly and continuously from the ground to the consumers' appliance through the co-operation of the producer, the pipeline, the wholesaler, and the retailer. The regulatory authorities who supervise rates are also an important factor in this process. Since the various agencies are closely tied together through this interdependent service, "it becomes immediately apparent that all the problems are common problems and must be approached from the standpoint of the public service. . . . This makes it perfectly clear that the consumer is vitally affected by anything that affects any of the segments of the public service, producer, pipelines, or distributor."

MR. KAYSER's major premise was that the consuming public wants gas service—"wants it in abundance—wants it efficiently delivered—and wants it widely distributed for as long a time as the product can be made available." Hence, he indicated that the principal problem at present is to complete the expansion program of the industry in order to take care of the many consumers in various sections of the country who are still on waiting lists for natural gas to use in house heating, etc.

Mr. Kayser held that the recent lowering in the allowable rate of return by the Federal Power Commission below the traditional 6 per cent is now the greatest problem confronting the industry. The

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uncertainties introduced by the formula method which the FPC is now attempting to apply in most pending rate cases, will, he feared, check the flow of money available for the growth of the pipelines.

Credit is apt to dry up entirely when conditions are unfavorable. The gas industry found it impossible to expand to any important extent during the long period 1930-45, due to the depression and later to war conditions. But since the security market opened up in 1946 to date, Mr. Kayser pointed out, the total service of natural gas to the residential consumer has increased approximately 125 per cent and over $2 billion have been poured into this industry by the investor for the service of the consumer. The expansion of this service to the satisfaction of the demands of the consumer is wholly dependent upon the security market and just exactly to the extent that such market is curtailed, service will be impaired. Whoever is responsible for that result must ultimately account to the public for their actions, he said.

Mr. Kayser asserted that the yields, earnings, and price-ratio data used by the FPC were obtained during a period when the public assumed that a 6 per cent return was generally acceptable to the commission and that common stocks would enjoy the advantage of leverage between borrowed money and equity, whereas the new formula reduces the rate of return and deprives the stockholder of leverage benefits.

Because of the uncertainties as to how the rate of return may work out under special formulas, particularly in a period of rising interest rates and costs, the investor will now find it difficult to project estimated earnings of a pipeline company into the future, and management is deprived of the incentive to efficiency in the financing of expansion.

TED LOCKE, utility analyst of Goodbody & Co., in a recent study on "The Outlook for Natural Gas Pipeline Common Stocks," after discussing the views of Chairman Buchanan and discussing the current regulatory lag, made the statement that the Northern Natural Gas Case represented *the first time that the commission had ever allowed any natural gas company less than 6 per cent.* He expressed his belief that it was the first time it had apparently based such rate of return more or less exclusively on the "cost of money" theory.

A recent review prepared by a prominent accounting firm for the decade 1940-50 showed that in 13 gas decisions all of the companies were allowed a rate of return of 6-6½ per cent. While there were some FPC cases where a return of less than 6 per cent was allowed, these involved only hydroelectric companies.

Mr. Locke concluded that "pipeline stocks would seem to have lost their attraction for inclusion in high-grade investment funds, especially when they are compared with the attractiveness of electric utility operating company common stocks. Ultimately, some natural gas pipeline common stocks may become attractive, if marketwise they recede to lower levels. Pending such market adjustment, we would avoid any further purchases."

## *Rate of Return Allowed in Utility Rate Cases, 1915-1951*

ARTHUR ANDERSEN & Co., the well-known accounting firm of New York, has prepared an 88-page brochure on the rate of return allowed in public utility rate cases during the years 1915-1951. The tabulation of decisions gives the date and PUR number, the amount of plant or rate base involved, the return allowed, the commission or court and the company involved, the allowing language and remarks, etc. The two accompanying charts have been reproduced (with slight modifications) from this report. The report contains similar charts for telephone utilities, transportation utilities, water utilities, and all utilities.

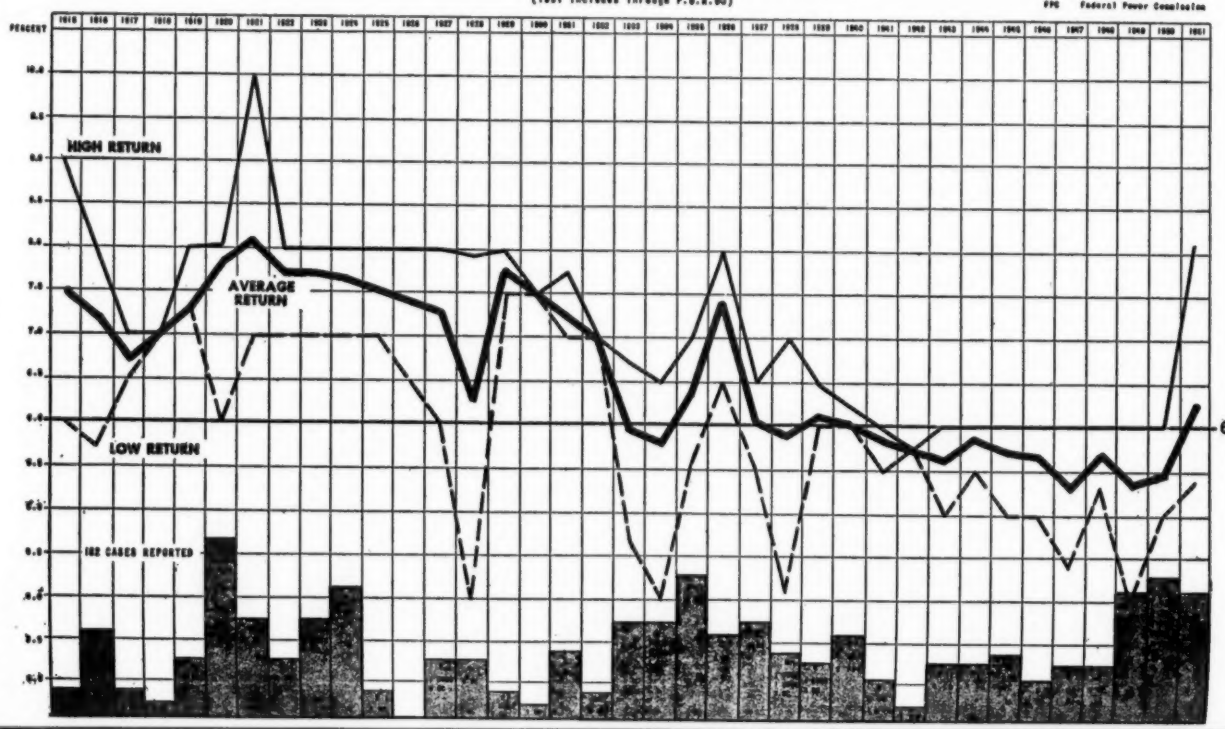
While the tabulations are carried only up to about the middle of 1951, the results are of considerable interest in view of the adverse stand taken by the Federal

Trend of Rate of Return

## ELECTRIC UTILITIES

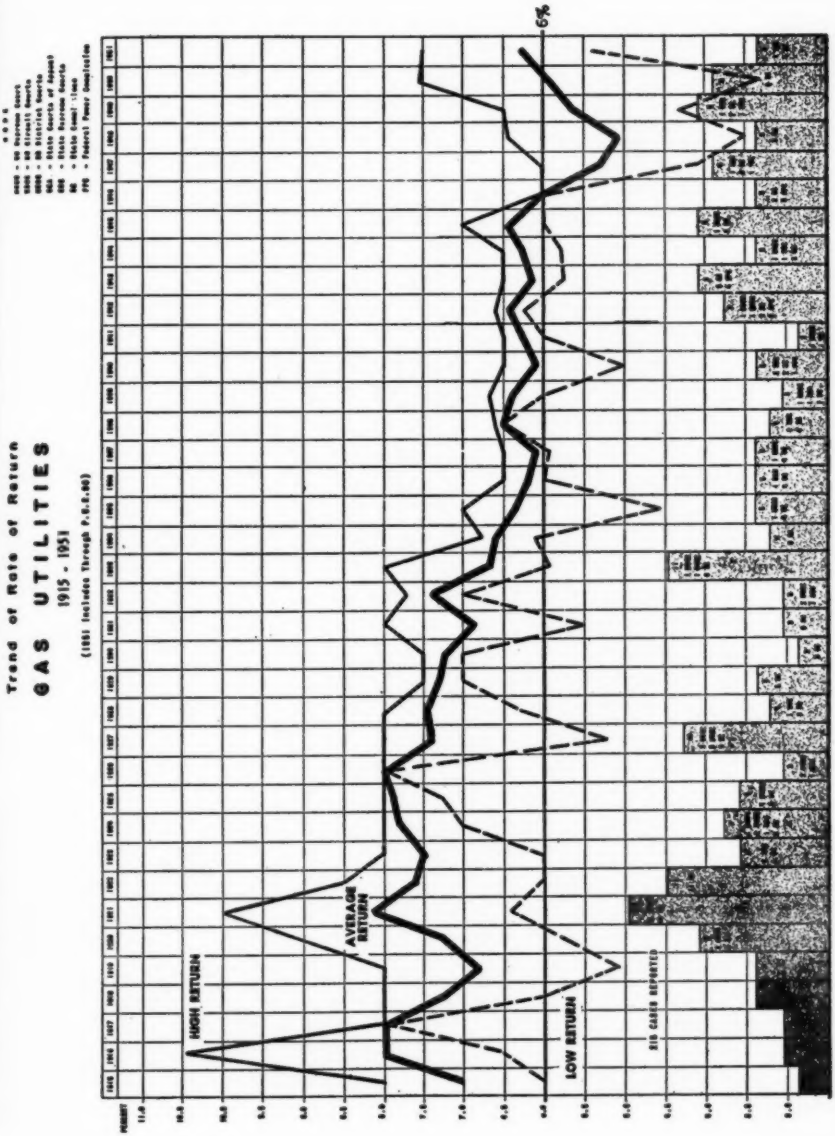
1915 - 1951

(1951 Includes Through P.U.R.'50)




Trend of Rate of Return

## GAS UTILITIES


Trend of Rate of Return
GAS UTILITIES
1915 - 1951
6%
HIGH RETURN
AVERAGE RETURN
LOW RETURN
GAS CASES REPORTED

Power Commission in fixing rate of return below the 6 per cent level in two recent cases. The "average" lines shown on the two charts seem to indicate the following conclusions: (1) in general the rate of return allowed by regulatory bodies has followed the trend of money rates and bond yields, which were very high during the 1920's, but which showed a declining trend beginning about 1931; (2) the allowed rate of return went into an uptrend about 1948-49, about the time bond yields began to advance; and (3) until recent years, higher rates of return have been allowed for gas than for electric utilities.

## *Utility Financing in 1952*

THE accompanying table compiled by Ebasco Services Incorporated, New York, gives a detailed analysis of utility financing for the nine months ended September 30th. Of the $2.6 billion financing 55 per cent was done by the electric utilities, 20 per cent was gas, 24 per cent telephone, and 1 per cent miscellaneous; and about 70 per cent represented bonds,

**VALUE OF PUBLIC UTILITY SECURITY OFFERINGS**

NINE MONTHS ENDED SEPTEMBER 30, 1952

(IN THOUSANDS)

| | TOTAL CAPITAL FINANCING | | BY TYPE OF SECURITY | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | LONG-TERM DEBT | | PREFERRED STOCK | | COMMON STOCK | |
| | AMOUNT | % | AMOUNT | % | AMOUNT | % | AMOUNT | % |
| BY TYPE OF UTILITY: | | | | | | | | |
| ELECTRIC | $1,441,077 | 55 | $ 890,986 | 48 | $170,422 | 61 | $379,669 | 77 |
| GAS | 537,798 | 20 | 361,164 | 19 | 86,120 | 30 | 90,494 | 18 |
| TELEPHONE | 633,655 | 24 | 591,001 | 32 | 22,100 | 8 | 20,554 | 4 |
| OTHER | 15,516 | 1 | 10,100 | 1 | 2,350 | 1 | 3,066 | 1 |
| TOTAL | $2,628,046 | 100 | $1,853,271 | 100 | $280,992 | 100 | $493,783 | 100 |
| BY TYPE OF SALE: | | | | | | | | |
| PUBLIC (DIRECT) | $1,478,267 | 56 | $1,026,700 | 55 | $247,125 | 88 | $204,442 | 41 |
| PRIVATE | 333,023 | 13 | 313 656 | 17 | 19,367 | 7 | - | - |
| SUBSCRIPTION | 816,756 | 31 | 512,915 | 28 | 14,500 | 5 | 289 341 | 59 |
| TOTAL | $2,628,046 | 100 | $1,853,271 | 100 | $280,992 | 100 | $493,783 | 100 |
| BY PURPOSE OF SALE: | | | | | | | | |
| NEW MONEY | $2,581 027 | 98 | $1,848 833 | 100 | $271,042 | 96 | $461,152 | 93 |
| DIVESTMENT | 32 631 | 1 | | - | - | - | 32,631 | 7 |
| REFUNDING | 14,388 | 1 | 4,438 | - | 9 950 | 4 | - | |
| TOTAL | $2,628,046 | 100 | $1,853,271 | 100 | $280,992 | 100 | $493,783 | 100 |
| BY METHOD OF SALE: | | | | | | | | |
| COMPETITIVE | $1,131,372 | 43 | $ 969 300 | 52 | $ 68,750 | 24 | $ 93,322 | 19 |
| NEGOTIATED | 596,000 | 23 | 71,659 | 4 | 191,375 | 68 | 332,966 | 67 |
| NO UNDERWRITING | 567,651 | 22 | 498,656 | 27 | 1,500 | 1 | 67,495 | 14 |
| PRIVATE | 333,023 | 12 | 313,656 | 17 | 19,367 | 7 | - | - |
| TOTAL | $2,628,046 | 100 | $1,853,271 | 100 | $280,992 | 100 | $493,783 | 100 |

*Source, Ebasco Services (New York) "Analysis of Public Utility Financing."*

11 per cent preferred stock, and 19 per cent common stock. A remarkably large proportion of the common stock sales were negotiated—67 per cent as compared with 19 per cent sold through competitive bidding, and 14 per cent which were sold without underwriting. Sixty-eight per cent of the preferred stock sales were also handled on a negotiated basis, but only 4 per cent of bond sales were handled in this way. Of the common stock offerings, 59 per cent were sold through subscription, and 41 per cent by direct sale to the public. The degree of market risk and the amount of salesmanship required seem to determine whether an issue should be negotiated.

October utility financing (figures compiled by the Irving Trust Company of New York) was on the thin side, including only $159,000,000 bonds—$96,000,000 electric, and $63,000,000 gas—and $18,000,000 electric utility equity financing.

## *Dangers of Constantly Declining Utility Profit Margins*

PROFIT margins in the regulated utility industry have been declining for some years, primarily due to inflation plus rigorous regulation. For the electric utility industry the ratio of net operating income (representing the "return" for investors) to revenues declined steadily from a high of 44 per cent in 1931 to about 19 per cent currently. What will happen if this declining trend should continue for another decade?

In considering this possibility, it is necessary to study the factors responsible for results in the past. In part, at least, the declining trend can be attributed to these fundamental factors:

(1) Use of a so-called net plant rate base for rate purposes.

(2) Reduction of this rate base by elimination of a substantial amount of plant acquisition adjustments in recent years.

(3) Use of a relatively fixed rate of return for rate purposes during a period when the operating costs and taxes have been increasing.

(4) Passing on to consumers of the major benefits derived from improved operating efficiency, through constant reduction of rates.

To reduce the problem of inflation to its simplest elements, let us assume that a small electric utility plant has an original cost of $100, an assumed life of forty years, and hence an annual depreciation accrual of $2.50. Operating expenses, maintenance, and taxes are arbitrarily set at $10 in the first year, with the amount increasing 5 per cent each year (uncompounded) to reflect an annual 5 per cent increase in the general level of commodity prices and wages. The rate of return allowed by regulatory authorities is assumed *to remain at 6 per cent on the rate base.* Efficiency is assumed to remain constant, since no major replacement or addition is contemplated. Arithmetical results in the first and twenty-fifth years work out as follows:

| | *1st Year* | *25th Year* |
|---|---|---|
| Gross Plant | $100.00 | $100.00 |
| Depreciation Reserve | — | 60.00 |
| Net Plant (Rate Base) | $100.00 | $ 40.00 |
| *Revenues | 18.50 | 26.90 |
| Operating Expenses and Taxes | 10.00 | 22.00 |
| Depreciation Accrual | 2.50 | 2.50 |
| Balance for Security Holders (6% on Rate Base) | 6.00 | 2.40 |
| Per Cent of Revenues Available for Security Holders | 32.4% | 8.9% |

*Adjusted by annual rate increases to offset (1) increase in operating expenses, and (2) reduction in 6 per cent return on rate base.

Obviously, it would be hard for the company operating this plant to attract new capital, with the rapid decline in the percentage of revenues available for security holders. Actually, while the electric utility industry has been able to "get by" thus far, this has been due to three very favorable factors—the constantly increasing efficiency of new generators, the rapid growth of the industry which encouraged the substitution of efficient

generators for those which have become obsolete, and the abnormally rapid increase in sales which tended to offset to some extent the declining profit margin.

LET us assume that our $100 hypothetical electric plant suddenly falls apart like the celebrated "one-hoss shay" at the end of its 40-year life expectancy. By that time the depreciation reserve will be up to $100, covering the cost. But when the directors get their cost budget for rebuilding the plant they will find that the new plant will cost them $300 instead of $100. How are they going to raise the extra $200 capital, based on the earnings record of the old plant?

Obviously, while the problem has been oversimplified in this illustration, the results indicate the vital importance of the inflationary factor and the fact that in order to protect the future interests of both the utility company and its customers, the regulatory commissions must take this factor into consideration in fixing a reasonable rate of return. Of course, in the "fair value" states where substantial weight is given to cost of reproduction such adjustments may be unnecessary.

THE dangers implicit in the situation are self-evident, as indicated by the record of the railroads in the inflation and subsequent depression periods following World War I. What happens, of course, is that the constantly decreasing margin for return becomes gradually more vulnerable to variations in revenue or expense. How far this situation will be allowed to progress is a speculative question which in time may vitally influence the market outlook for utility securities.

A continued period of rising commodity prices and heavy plant outlays, followed by a sharp contraction of business similar to that in the 1930's, could easily result in a dangerous shrinkage in return which might affect the solvency of some companies, despite the assumed "depression-proof" character of the industry. To guard against such a contingency, it is important that utilities maintain fully adequate earnings and conservative debt ratios.

We are indebted to Vice President Walter J. Herrman of Southern California Gas Company for the illustration used above and some of the basic ideas in this analysis.

## FINANCIAL DATA ON ELECTRIC UTILITY STOCKS

| *1951 Rev. (Mill.)* | | | *10/29/52 Price About* | *Div. Rate* | *Current Yield* | *Share Earnings* Cur. Period* | *% Increase* | *12 Mos. Ended* | *Price-Earns. Ratio* | *Dividend Payout* |
|---|---|---|---|---|---|---|---|---|---|---|
| $193 | S | American Gas & Elec. .... | 62 | $3.00# | 4.8% | $4.60** | D5% | Aug. | 13.5 | 65% |
| 22 | O | Arizona Public Service .. | 14 | .80 | 5.7 | 1.10 | 51 | Aug. | 12.7 | 73 |
| 6 | O | Arkansas Mo. Power .... | 18 | 1.10 | 6.1 | 1.34 | 5 | June | 13.4 | 82 |
| 20 | S | Atlantic City Elec. ..... | 26 | 1.30 | 5.0 | 1.75 | 13 | Sept. | 14.9 | 74 |
| 4 | O | Bangor Hydro-Elec. .... | 27 | 1.60 | 5.9 | 1.97 | — | Sept. | 13.7 | 81 |
| 2 | O | Beverly G. & E. ..... | 52 | 3.70† | 7.1 | 4.13 | 31 | Dec. | 12.6 | 97 |
| 3 | O | Black Hills P. & L. ..... | 20 | 1.28 | 6.4 | 1.73 | D6 | June | 11.6 | 74 |
| 74 | B | Boston Edison ..... | 48 | 2.80 | 5.8 | 3.39 | 13 | June | 14.2 | 83 |
| 13 | C | California Elec. Pr. ..... | 9½ | .60 | 6.3 | .87 | NC | Aug. | 10.9 | 69 |
| 12 | O | Calif. Oregon Power .... | 26 | 1.60 | 6.2 | 2.04 | 12 | Sept. | 12.7 | 78 |
| 40 | S | Carolina P. & L. ..... | 38 | 2.00 | 5.3 | 2.95 | 8 | Sept. | 12.9 | 68 |
| 18 | S | Cen. Hudson G. & E. .... | 12 | .70 | 5.8 | .88 | 57 | Sept. | 13.6 | 80 |
| 14 | O | Central Ill. E. & G. ..... | 26 | 1.30 | 5.0 | 2.22 | 3 | June | 11.7 | 59 |
| 22 | S | Central Ill. Light ..... | 37 | 2.20 | 5.9 | 2.72 | D5 | Sept. | 13.6 | 81 |
| 33 | S | Central Ill. P. S. ..... | 19 | 1.20 | 6.3 | 1.51 | D2 | June | 12.6 | 79 |
| 8 | O | Cen. Louisiana Elec. .... | 35 | 2.00 | 5.7 | 3.10** | NC | Sept. | 11.3 | 65 |
| 24 | O | Central Maine Power ... | 19 | 1.20 | 6.3 | 1.49 | 12 | Sept. | 12.8 | 81 |
| 80 | S | Central & S. W. ..... | 20 | 1.00 | 5.0 | 1.58 | 18 | Sept. | 12.7 | 63 |
| 8 | O | Central Vermont P. S. .. | 14 | .84 | 6.0 | 1.20** | 36 | Sept. | 11.7 | 70 |
| 77 | S | Cincinnati G. & E. ..... | 38 | 2.00# | 5.3 | 2.86 | 4 | June | 13.3 | 70 |
| 5 | O | Citizens Utilities ..... | 13 | .36# | 5.8a | .83 | 20 | June | 15.7 | 43 |

| 1951 Rev. (Mill.) | | (Continued) | 10/29/52 Price About | Div. Rate | Current Yield | Share Earnings* Cur. Period | % Increase | 12 Mos. Ended | | Dividend Payout |
|---|---|---|---|---|---|---|---|---|---|---|
| 80 | S | Cleveland Elec. Illum. .. | 53 | 2.60 | 4.9 | 3.93 | 11 | June | 13.5 | 66 |
| 2 | O | Colorado Cent. Power ... | 18 | 1.00 | 5.6 | 1.26 | D1 | June | 14.3 | 79 |
| 31 | S | Columbus & S. O. E. ... | 24 | 1.40 | 5.8 | 2.16 | 13 | June | 11.1 | 65 |
| 281 | S | Commonwealth Edison .. | 33 | 1.80 | 5.5 | 2.10 | D1 | June | 15.7 | 86 |
| 7 | C | Community Pub. Ser. ... | 18 | .90 | 5.0 | 1.51 | 31 | June | 11.9 | 60 |
| 1 | O | Concord Electric ..... | 35 | 2.40 | 6.9 | 2.52 | D5 | Dec. | 13.9 | 95 |
| 48 | O | Connecticut L. & P. ..... | 16 | .88† | 5.5 | .97** | D3 | Sept. | 16.5 | 91 |
| 16 | O | Connecticut Power ..... | 37 | 2.25 | 6.1 | 2.38 | D3 | June | 15.5 | 95 |
| 418 | S | Consol. Edison ..... | 36 | 2.00 | 5.6 | 2.51 | 17 | Sept. | 14.3 | 80 |
| 84 | S | Consol. Gas of Balt. .... | 26 | 1.40 | 5.4 | 1.66 | D2 | June | 15.7 | 84 |
| 129 | S | Consumers Power ..... | 37 | 2.00 | 5.4 | 2.71 | 2 | Sept. | 13.7 | 74 |
| 49 | S | Dayton P. & L. ..... | 35 | 2.00 | 5.7 | 2.59 | — | June | 13.5 | 77 |
| 23 | S | Delaware P. & L. ..... | 25 | 1.20 | 4.8 | 1.63 | D15 | June | 15.3 | 74 |
| 6 | O | Derby G. & E. ..... | 22 | 1.40 | 6.4 | 1.45 | D30 | Dec. | 15.2 | 97 |
| 164 | S | Detroit Edison ..... | 24 | 1.40 | 5.8 | 1.62 | 4 | Sept. | 14.8 | 86 |
| 89 | C | Duke Power ..... | 92 | 4.00 | 4.3 | 6.23 | D6 | June | 14.8 | 64 |
| 7 | O | El Paso Electric ..... | 23 | 1.20 | 5.2 | 1.92 | 8 | Sept. | 12.0 | 63 |
| 9 | S | Empire Dist. Elec. ..... | 23 | 1.40 | 6.1 | 2.29 | 22 | June | 10.0 | 61 |
| 4 | O | Fitchburg G. & E. ..... | 48 | 3.00 | 6.3 | 3.12 | D15 | Dec. | 15.4 | 96 |
| 25 | S | Florida Power Corp. .... | 22 | 1.20 | 5.5 | 1.70 | 28 | June | 12.9 | 71 |
| 55 | S | Florida P. & L. ..... | 31 | 1.40 | 4.5 | 2.63 | 8 | Sept. | 11.8 | 53 |
| 137 | S | General Pub. Util. ..... | 25 | 1.60 | 6.4 | 1.98 | 13 | June | 12.6 | 81 |
| 5 | O | Green Mt. Power ..... | 19 | 1.20 | 6.3 | 1.74 | D11 | Aug. | 10.9 | 69 |
| 33 | S | Gulf States Util. ..... | 25 | 1.20 | 4.8 | 1.76 | 18 | Aug. | 14.2 | 68 |
| 18 | C | Hartford E. L. ..... | 48 | 2.75 | 5.7 | 2.72 | D5 | June | 17.6 | 101 |
| 4 | O | Haverhill Electric ..... | 33 | 2.40† | 7.3 | 2.59 | D17 | Dec. | 12.7 | 93 |
| 41 | S | Houston L. & P. ..... | 24 | 1.00 | 4.2 | 1.66 | 29 | Sept. | 14.5 | 60 |
| 17 | S | Idaho Power ..... | 41 | 1.80 | 4.4 | 3.10 | 22 | June | 13.2 | 58 |
| 51 | S | Illinois Power ..... | 38 | 2.20 | 5.8 | 2.79 | D6 | Aug. | 13.6 | 79 |
| 31 | S | Indianapolis P. & L. ..... | 39 | 2.00 | 5.1 | 2.86 | — | June | 13.6 | 70 |
| 15 | S | Interstate Power ..... | 10 | .60 | 6.0 | .77 | 12 | June | 13.0 | 78 |
| 16 | O | Iowa Elec. L. & P. ..... | 17 | 1.10 | 6.5 | 1.59 | 10 | Aug. | 10.7 | 69 |
| 24 | S | Iowa-Ill. G. & E. ..... | 28 | 1.80 | 6.4 | 2.13 | D8 | June | 13.1 | 85 |
| 25 | S | Iowa Power & Light .... | 24 | 1.40 | 5.8 | 1.66 | — | June | 14.5 | 84 |
| 22 | O | Iowa Pub. Service ..... | 22 | 1.40 | 6.4 | 1.85 | 4 | Sept. | 11.9 | 76 |
| 9 | O | Iowa Southern Util. ..... | 18 | 1.20 | 6.7 | 1.39 | 25 | Sept. | 12.9 | 86 |
| 36 | S | Kansas City P. & L. ..... | 29 | 1.60 | 5.5 | 2.05 | 24 | Aug. | 14.1 | 78 |
| 16 | O | Kansas Gas & Elec. ..... | 33 | 2.00 | 6.1 | 2.63 | 7 | Sept. | 12.5 | 76 |
| 29 | S | Kansas Pr. & Lt. ..... | 18 | 1.12 | 6.2 | 1.34 | D4 | June | 13.4 | 84 |
| 27 | O | Kentucky Utilities ..... | 17 | 1.00 | 5.9 | 1.49 | D1 | June | 11.4 | 67 |
| 5 | O | Lake Superior D. P. .... | 30 | 1.80 | 6.0 | 2.99 | 20 | June | 10.0 | 60 |
| 6 | O | Lawrence G. & E. ..... | 37 | 1.90† | 5.1 | 2.65 | D15 | Dec. | 14.0 | 91 |
| 53 | S | Long Island Lighting ... | 17 | .90 | 5.3 | 1.29 | 26 | Sept. | 13.2 | 70 |
| 35 | S | Louisville G. & E. ..... | 37 | 1.80 | 4.9 | 3.05 | 4 | Aug. | 12.1 | 59 |
| 6 | O | Lowell Elec. Lt. ..... | 47 | 3.35† | 7.1 | 3.70 | D7 | Dec. | 12.7 | 91 |
| 8 | O | Lynn G. & E. ..... | 28 | 1.60 | 5.7 | 1.56 | D26 | Dec. | 17.9 | 103 |
| 6 | O | Madison G. & E. ..... | 34 | 1.60 | 4.7 | 2.47 | 7 | Dec. | 13.8 | 65 |
| 3 | C | Maine Public Service ... | 18 | 1.20 | 6.7 | 1.44 | 9 | Aug. | 12.5 | 83 |
| 3 | O | Michigan G. & E. ..... | 29 | 1.80 | 6.2 | 2.80 | 6 | June | 10.4 | 64 |
| 112 | S | Middle South Util. ..... | 25 | 1.30 | 5.2 | 2.08** | 13 | Sept. | 12.0 | 63 |
| 17 | S | Minnesota P. & L. ..... | 37 | 2.20 | 5.9 | 3.16 | D1 | Sept. | 11.7 | 70 |
| 1 | O | Missouri Edison ..... | 11 | .70 | 6.4 | 1.16 | 1 | June | 9.5 | 60 |
| 6 | C | Missouri P. S. ..... | 21 | 1.00 | 4.8 | 1.56 | D9 | Dec. | 13.5 | 64 |
| 5 | O | Missouri Utilities ..... | 17 | 1.00 | 5.9 | 1.56 | D7 | June | 10.9 | 64 |
| 27 | S | Montana Power ..... | 27 | 1.55† | 5.7 | 2.48 | 7 | Aug. | 10.9 | 63 |
| 13 | C | Mountain States Pr. ..... | 13 | .84 | 6.5 | 1.05 | 7 | Aug. | 12.4 | 80 |
| 105 | S | New England Elec. ..... | 14 | .90 | 6.4 | 1.15 | — | June | 12.2 | 78 |
| 34 | O | New England G. & E. ... | 15 | 1.00 | 6.7 | 1.21** | D3 | Aug. | 12.4 | 83 |
| 38 | O | New Orleans P. S. ..... | 41 | 2.25 | 5.5 | 2.64 | D5 | Aug. | 15.5 | 85 |
| 2 | O | Newport Electric ..... | 30 | 2.00 | 6.7 | 2.73 | 8 | Sept. | 11.0 | 73 |
| 57 | S | N. Y. State E. & G. ..... | 33 | 1.90 | 5.8 | 2.39 | 38 | Sept. | 13.8 | 79 |
| 176 | S | Niagara Mohawk Power . | 26 | 1.60 | 6.2 | 1.99 | 26 | Sept. | 13.1 | 80 |
| 89 | S | North American ..... | 22 | 1.20 | 5.5 | 1.36 | 3 | June | 16.2 | 88 |

| 1951 Rev. (Mill.) | | (Continued) | 10/29/52 Price About | Div. Rate | Current Yield | Share Earnings* Cur. Period | % Increase | 12 Mos. Ended | Price-Earns. Ratio | Div. Pay. out |
|---|---|---|---|---|---|---|---|---|---|---|
| 51 | O | Northern Ind. P. S. | 26 | 1.52 | 5.8 | 2.26 | 3 | Sept. | 11.5 | 67 |
| 89 | S | Northern States Pr. | 12 | .70 | 5.8 | .88 | 10 | June | 13.6 | 80 |
| 8 | O | Northwestern P. S. | 13 | .90 | 6.9 | 1.25 | D3 | June | 10.4 | 63 |
| 96 | S | Ohio Edison | 35 | 2.00 | 5.7 | 2.81 | 4 | Sept. | 12.5 | 71 |
| 29 | S | Oklahoma G. & E. | 25 | 1.40 | 5.6 | 1.93 | 20 | Sept. | 13.0 | 73 |
| 13 | O | Otter Tail Power | 22 | 1.50 | 6.8 | 1.76 | D5 | Aug. | 12.5 | 85 |
| 279 | S | Pacific G. & E. | 37 | 2.00 | 5.4 | 2.40** | 8 | June | 15.4 | 83 |
| 20 | O | Pacific P. & L. | 19 | 1.10 | 5.8 | 1.71 | 32 | Aug. | 11.1 | 64 |
| 85 | S | Penn. Power & Light | 30 | 1.60 | 5.3 | 2.48 | 6 | Aug. | 12.1 | 65 |
| 7 | C | Penn Water & Power | 41 | 2.00 | 4.9 | 2.24 | — | Dec. | 18.3 | 89 |
| 165 | S | Philadelphia Elec. | 31 | 1.50 | 4.8 | 2.28 | 14 | Sept. | 13.6 | 66 |
| 25 | O | Portland Gen. Elec. | 30 | 1.80 | 6.0 | 2.66** | — | Sept. | 11.3 | 68 |
| 43 | S | Potomac Elec. Power | 17 | 1.00 | 5.9 | 1.34 | 35 | July | 12.7 | 75 |
| 49 | S | Pub. Serv. of Colo. | 30 | 1.40 | 4.7 | 2.06 | D4 | June | 14.6 | 68 |
| 201 | S | Pub. Serv. E. & G. | 26 | 1.60 | 6.2 | 2.11 | NC | Mar. | 12.3 | 76 |
| 50 | S | Pub. Serv. of Ind. | 33 | 1.80 | 5.5 | 2.40 | 21 | Aug. | 13.8 | 75 |
| 17 | O | Public Serv. of N. H. | 26 | 1.80 | 6.9 | 2.09** | 14 | Sept. | 12.4 | 86 |
| 7 | O | Public Serv. of N. M. | 10 | .56 | 5.6 | .83 | 2 | June | 12.0 | 67 |
| 21 | O | Puget Sound P. & L. | 24 | .80 | 3.3 | 1.63 | D8 | June | 14.7 | 49 |
| 38 | S | Rochester G. & E. | 37 | 2.24 | 6.1 | 2.74 | 19 | June | 13.5 | 82 |
| 8 | O | Rockland L. & P. | 11 | .60 | 5.5 | .77 | D6 | June | 14.3 | 78 |
| 6 | S | St. Joseph L. & P. | 27 | 1.60 | 5.9 | 2.11 | 7 | June | 12.8 | 76 |
| 29 | O | San Diego G. & E. | 14 | .80 | 5.7 | 1.37 | 20 | Aug. | 10.2 | 58 |
| 11 | S | Scranton Electric | 15 | 1.00 | 6.7 | 1.08 | D9 | Aug. | 13.9 | 93 |
| 5 | O | Sierra Pacific Pr. | 24 | 1.60 | 6.7 | 2.11 | 5 | Aug. | 11.4 | 76 |
| 118 | S | So. Calif. Edison | 35 | 2.00 | 5.7 | 3.04 | NC | Sept. | 11.5 | 66 |
| 23 | S | So. Carolina E. & G. | 11 | .60 | 5.5 | .76 | 73 | Aug. | 14.4 | 79 |
| 4 | O | Southern Colo. Pr. | 11 | .70 | 6.4 | .89 | 4 | Aug. | 12.4 | 79 |
| 154 | S | Southern Company | 15 | .80 | 5.3 | 1.16 | 25 | Sept. | 12.9 | 69 |
| 11 | S | So. Indiana G. & E. | 24 | 1.50 | 6.3 | 2.04 | 3 | Sept. | 11.8 | 74 |
| 2 | O | Southwestern E. S. | 15‡ | .96 | 6.2 | 1.43 | 11 | May | 10.8 | 67 |
| 23 | O | Southwestern P. S. | 20 | 1.12 | 5.6 | 1.45** | 10 | July | 13.8 | 77 |
| 13 | C | Tampa Electric | 42 | 2.40 | 5.7 | 3.22** | 5 | Sept. | 13.0 | 75 |
| 82 | S | Texas Utilities | 41 | 1.88 | 4.6 | 3.01 | 25 | Sept. | 13.6 | 62 |
| 31 | S | Toledo Edison | 12 | .70 | 5.8 | 1.00 | 15 | Sept. | 12.0 | 70 |
| 7 | O | Tucson G. E. L. & P. | 28 | 1.60 | 5.7 | 2.30 | 41 | Sept. | 12.2 | 70 |
| 23 | O | United Illuminating | 43 | 2.40† | 5.6 | 2.38 | D16 | Dec. | 18.1 | 100 |
| 2 | O | Upper Peninsula Pr. | 16 | 1.20 | 7.5 | 1.37 | 1 | June | 11.7 | 88 |
| 24 | S | Utah Power & Light | 31 | 1.80 | 5.8 | 2.27 | 3 | Sept. | 13.7 | 79 |
| 69 | S | Virginia E. & P. | 25 | 1.40 | 5.6 | 1.80** | 3 | Sept. | 13.9 | 78 |
| 18 | S | Washington Water Pr. | 25 | 1.30 | 5.2 | 1.72 | 41 | Sept. | 14.5 | 76 |
| 100 | S | West Penn Elec. | 33 | 2.00 | 6.1 | 3.08 | 18 | Aug. | 10.7 | 65 |
| 54 | O | West Penn Power | 40 | 2.00 | 5.0 | 2.28 | 7 | June | 17.5 | 81 |
| 8 | O | Western Lt. & Tel. | 25 | 1.60 | 6.4 | 2.25 | 12 | June | 11.1 | 71 |
| 19 | O | Western Mass. Cos. | 32 | 2.00 | 6.3 | 2.10 | D22 | Dec. | 15.2 | 95 |
| 73 | S | Wisconsin Elec. Power | 26 | 1.40 | 5.4 | 1.73 | — | June | 15.0 | 81 |
| 26 | O | Wisconsin P. & L. | 20 | 1.20 | 6.0 | 1.52 | 25 | June | 13.2 | 79 |
| | | Averages | | | 5.8% | | | | 13.1 | 75% |
| *Canadian Companies*†† | | | | | | | | | | |
| 134 | C | Brazilian Trac. L. & P. | 10 | $1.00 | 10.0% | $2.47 | 5% | Dec. | 4.0 | 40% |
| 15 | C | Gatineau Power | 20 | 1.20 | 6.0 | 1.30 | D11 | Dec. | 15.4 | 92 |
| 8 | C | Quebec Power | 19 | 1.00 | 5.3 | 1.17 | D11 | Dec. | 16.2 | 86 |
| 37 | C | Shawinigan Water & Pr. | 40 | 1.45† | 3.6 | 1.84 | D7 | Dec. | 21.7 | 79 |
| 16 | C | Winnipeg Electric | 40 | 2.40 | 6.0 | 2.26 | D7 | Dec. | 17.7 | 106 |

B—Boston Exchange. C—Curb exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. D—Decrease. NC—No comparable figures available. *If additional common shares have been recently offered, earnings are adjusted to give effect to the offering. Percentage change is in the balance available for common stock. †Estimated (rate irregular or includes extras). ††While these stocks are listed on the Curb, Canadian prices are used. (Curb prices are affected by exchange rates, etc.) #Stock dividend also paid. **Based on average number of shares. a—Includes regular stock dividend.

# What Others Think

## American Gas Association Convention

THE thirty-fourth annual American Gas Association convention which met in Atlantic City, New Jersey, October 27th to 30th was marked by a spirit of optimism for the gas industry's future, slightly diluted by evident concern over recent regulatory policies of the Federal Power Commission. While producing statistics indicating continued widespread growth and development, Charles E. Bennett, retiring president of the industry's trade association, warned that the gas industry "is facing the most serious challenge in its history." Total gas industry revenues have increased 22.6 per cent in the last eighteen months, Bennett said, and long-term capital financing by straight operating gas utilities and pipelines is up more than 20 per cent since 1950. Contemplated new construction for the next five years is expected to amount to $5,600,000, with gas utilities adding 800,000 new customers to their lines each year, he said.

Its very achievements, however, have made the industry vulnerable to competition from all sides—competition for steel, man power, increased rates, and for the investment dollars. As an industry already experiencing the heavy load of regulation, the gas industry is threatened with even more regulation in the future, he said. Because of that regulation by numerous governmental bodies the industry faces a "squeeze play" across the land between runaway costs of doing business and an inevitable lag in the granting of permission for urgently needed higher rates. "A new theory of rate of return and other disturbing precepts are being advanced," Bennett said. "These are endangering our ability to raise the capital necessary to render the type of service that the public demands and deserves," he added.

In spite of these difficulties, Bennett declared the industry has the greatest opportunity in its history to continue its phenomenal progress, if it recognizes these danger signals and plans to meet its challenges. He advocated maintaining and improving the gas industry's public relations; strengthening its earnings position; and intelligent planning in advance to meet each new problem. Co-ordinated procedure must be developed to unite the industry as a co-operative, dynamic enterprise. The gas industry, he emphasized, must maintain its position as a free enterprise leader.

"THE greatest increase in natural gas use from 1951 to 1975, around 180 per cent," was foreseen by Dr. Gustav Egloff, research director of Universal Oil Products Company of Chicago. He expressed the view that eventually much more than the estimated proved recoverable reserves of 500 trillion cubic feet of natural gas will be found underground and underwater in the continental United States. Envisioning underground frontiers, Dr. Egloff stated that thus far about 98 per cent of the million square miles of land area overlying our sedimentary formations remain to be thoroughly explored by the drill. Moreover, he pointed out that "natural gas has been discovered at a much faster rate than petroleum and natural gas liquids in recent years."

Statistics, showing that natural gas "supplies will be maintained well beyond the present century," were cited by Dr. Egloff. He interpreted such reserves as meeting all demands and upholding "the favorable competitive position of the industry" in the fuel field far into the future. Much of the continuing increase in the use of natural gas, said Dr.

Egloff, most likely will be "in the fields of space heating, cooking, heat treating, and chemical production." He added that close to a million homes installed gas-heating facilities during the 1951-52 heating season and another 1,100,000 new customers are anticipated for 1952-53.

Natural gas, Dr. Egloff continued, also is a "major raw material for the skyrocketing $2 billion petrochemical industry" which now supplies a quarter of the total chemical requirements and may be the source of much more in future years, although at present 80 per cent is for carbon black. With an eye toward national defense, he hailed such synthetics because "they assure the United States of self-sufficiency in cases of either temporary or permanent shortages of raw materials."

RETIRING Senator Herbert R. O'Conor of Maryland, author of a bill in Congress to exempt local distributing gas utilities from Federal Power Commission jurisdiction, warned that "certain developments indicate that all public utilities should be on their guard against unwarranted Federal encroachment." O'Conor's bill was designed to get around the U. S. Supreme Court's decision in the East Ohio Gas Company Case.

Under the Supreme Court's decision as interpreted by the Federal Power Commission, utilities engaged in operations which are wholly intrastate could be subject to dual Federal-state regulations as to their books of account, depreciation practices, and other matters. "I am firmly of the belief," O'Conor said, "that local distributing companies should not come under the jurisdiction of the Federal Power Commission, but should be subject to local regulations and local regulation only. Furthermore, I believe that it has been the intent of Congress when the statute was enacted and, further, I believe that the interests of consumers require that the Congress clearly reaffirm the local nature of such transactions and exempt such local distribution companies from Federal regulation, where their distribution is exclusively within a state."

O'Conor said it should be clearly apparent that "there should be no duplication by extension of Federal regulation in the public utility field so long as the public interest is fully protected by the state regulatory commissions." The retiring Senator called the American system of private enterprise "too sound for us ever to yield to any persuasive arguments for further government intervention. Admit for argument's sake," he continued, "that there have been occasions when public utility enterprises were conceived or managed on a plane that was not 100 per cent for the best interests of the people. Would anyone, even the most rabid advocate of socialized government, attempt to argue that foreign governments have been successful in many of their socialized undertakings? Collaterally, would anyone but the most ardent Federalist contend that, by and large, the Federal government can handle affairs of strictly local interest as efficiently as these same matters can be handled on state or local level where they rightly belong?" One has only to study the records of privately owned companies, with their history of large tax payments and businesslike methods, as compared to government undertakings, financed by taxes, to arrive at a conclusion as to which system is better for the country, he said.

TOM WALKER, vice president of the Irving Trust Company of New York, told delegates to the convention that gas utilities must maintain and enhance earnings in every possible way to retain support of investors. He suggested that this could be done through good service, economy in financing and operation, and by obtaining fair and compensatory rates. Walker said investors are becoming concerned over the effects of inflation on common stocks. New investors are willing to put up their 50-cent dollars to earn a return in depreciated currency, he said. But old security holders have invested 100-cent dollars and the rate of earnings on com-

mon stocks has shown small, if any, increase during the years. Investors are concerned as to whether management and regulatory authorities can be sufficiently broadminded to keep rates abreast of changing conditions. The test of the investor is whether or not there are sufficient earnings present or in prospect to support their investments adequately. Rates based on past capital costs and depreciation charges do not meet the present situation, he said.

Investors are aware that commissions are circumscribed by complex laws, Walker continued, but they also feel that commissions should exercise reasonable discretion to find a fair-end result. Regulatory bodies are trustees to the public and are not free to deal too generously with a public utility at the expense of the ratepayer. But there is a feeling among important investors that some commissions are taking too narrow and technical a view both as to what is a fair value of property and what is a reasonable rate of return, Walker asserted.

In Walker's opinion, commissions should give due consideration to what would be a normal pattern of debt and equity when considering the present cost of raising capital. Company finance officers should co-ordinate their financial policies with their rate activities. During the time that debt is high, the cost of money may be made to appear very low. The recent change in what seemed to be an accepted rate program of the Federal Power Commission has brought about unbounded uncertainty, Walker said.

Pointing out that for a number of years the informed investor has been a most enthusiastic supporter of natural gas expansion, Walker warned his mood now may be changing. The investor is asking questions concerning the future and his most serious question has to do with prospects of maintaining and increasing net earnings. Encompassed by rising costs all the way from the gas fields to the customer's meter, the investor is chiefly concerned as to whether or not rate structures will be permitted to support the new financing which the gas utilities must do, Walker concluded.

Frank C. Smith, president of the Houston Natural Gas Corporation and new president of the American Gas Association, saw the problem of retaining markets as the key to all other problems of the gas industry and called upon top management to devote its attention to the sale of appliances. "A great gas appliance manufacturing industry has been created to satisfy the needs and wants of gas utility customers," he said. "To survive, to keep pace in research, in product development, with the myriad of competing appliances, it must be a healthy, prosperous industry. And with the gas appliance manufacturing industry today casting its eyes at the green fields near by, and already, in part, of necessity breaking off here and there in competing appliance manufacture, we should need no other warning of a vitally serious situation. Appliance manufacturers," he continued, "with their assets at stake, are watching to see whether they can rely upon us to join with them in maintaining and extending our markets, which are identical. They are watching to see whether we will help *ourselves* by helping *them* to make it profitable to be a gas appliance manufacturer. Their markets cannot be maintained without utility leadership, and such leadership requires, on our part, realization, acceptance, action."

The "chaotic" condition of the wellhead market for gas was described by E. I. Thompson, executive vice president of the Texas Independent Producers and Royalty Owners' Association. He said the price range to the Texas producers varies from 2 cents per thousand cubic feet to 15 cents—the lower prices prevailing under old contracts and higher prices for recent purchases. This situation is due largely to the rapidly changing conditions within the gas industry. When there was little or no market for gas and a gas well was a liability, the prime prerequisite for

financing a pipeline was a long-term gas contract, he explained. Many contracts were thus entered into at two or three cents per thousand cubic feet and some of them for the life of the lease. Many of those contracts are still in operation.

The construction of big interstate lines after the war resulted in real competition and contracts were made at from 8 to as high as 15 cents per thousand cubic feet. "The net result . . . is a grossly discriminatory price structure as far as the producer is concerned," Thompson said. He added that it is going to require the exercise of a great deal of "business statesmanship" to stabilize the situation. Contracting for new gas connections at recent higher prices is not standard procedure among the pipeline companies, Thompson emphasized, and the producer with large reserves favorably located with respect to pipelines can still command competitive terms and prices. "But," he said, "there are many take-it-or-leave-it contracts being made today at six cents, for instance, with producers with moderate reserves and at the mercy of one pipeline outlet."

THOMPSON attacked the theory that natural gas should be contained within the bounds of each producing state, awaiting an ultimate market within that state. "Natural gas," he explained, "for the most part, is either produced with or has been found in connection with exploration for oil, and a market for gas, no matter where the market is located, is essential to its most beneficial conservation and use. There is no need to elaborate . . . on the waste of gas that has occurred in the past through flaring for lack of a market, and as the markets grow waste correspondingly decreases. The markets necessary to diminish that waste must be present markets, not future markets, for in most cases the financial condition of the producer is such that it is economically impossible for him to withhold the production of oil and gas for the future."

THE Texas executive warned, however, that "those who advocate unlimited gas exports . . . should give proper recognition to the fact that the disparity between the price of gas and competing fuels accounts in a large measure for the limitless demand for gas. In this instance," he continued, "increased demand is not entirely healthy for the nation or the industry for the simple reason that it is stimulated by unnaturally depressed prices. It seems to me that we are neglecting our clear responsibility as producers and suppliers when we fail to stand together and demand jointly a recognition on the part of the consuming public that only a competitive price can assure a lasting supply," he said.

## The Utility Rôle in Civil Defense

UTILITY company personnel are requested to ignore local Civil Defense "individual registration" drives set for the period between Armistice Day and Thanksgiving Day (November 11th to 27th). This is the wish of the Federal Civil Defense Administration and local CD units. Since the utilities are to operate as a unit, CD appeals for their specialized services will be made to the utility company as a group, not to company personnel as individuals. Historically among the first to prepare for any sudden emergency — and now actively co-operating in many places with local CD organizations—the utilities will have first call on their own people in the event of an emergency.

Federal CD authorities will not attempt to tell the utilities or their employees how to act or to perform the functions well known to them, or to direct all details from Washington. Civilian defense is a local and state responsibility, FCDA advises. Utility management may free a part of its office personnel for such nonutility defense occupations as nurse-aide work, or warden duty, as it sees fit.

Restoration of utility service (electric

telephone, water, gas, or transit) in the event of a defense emergency should be the immediate objective of all skilled and semiskilled utility employees, according to FDCA thinking. Utility company crews will operate as a team under the instruction of their own supervisors—and each man at the top limit of his professional ability. Co-ordination of service restoration will be handled through the local CD engineering services chief who is usually the local public works director. Effective channels for by-passing unco-operative or unsympathetic officials can be established. This can be arranged by tying utility engineering representatives directly to the local CD director through the latter's invitation to utility men to join his immediate staff.

Service will be restored along an agreed line of priority, properly tied in with fire fighting, hospital needs, water conservation needs, and civilian general welfare. Interutility mutual-aid schemes are encouraged by FCDA. Many utilities are asking their construction contractors and heating and plumbing engineers to "stand by" in order to merge service restoration efforts at a moment's notice.

At the advisory level FCDA officials have been working harmoniously with utility industry groups. Edison Electric Institute, American Gas Association, and American Water Works Association people are aiding FCDA engineering services. Other men of note in the utility industry have been temporarily on loan to FCDA's engineering division. They have contributed to a number of proposed booklets on service restoration. Due to lack of funds, FCDA has so far been unable to publish more than one or two pamphlets (*e.g.*, "Water Supplies for Wartime Fire Fighting," FCDA-TM-9-1). Technical manuals eventually will cover all other service restoration, such as gas, electric, and transit, with the possible exception of telephone. The telephone industry deems its own booklets are adequate to the needs and this has saved FCDA the expense of duplicating already existing and satisfactory manuals. Street and highway traffic rerouting, debris clearance, etc., will be covered in other manuals of interest to utilities.

A text on construction of blast-resistant buildings has attracted considerable acclaim among utility engineers familiar with this recently published technical manual. The title is "Windowless Structures, a Study in Blast Resistant Design." The FCDA advises that it will prove of interest to telephone and power companies especially. Its principles are adaptable to central station construction in potential "target" areas. (The manual is designated as FCDA-TM-5-4 and may be purchased for $1 from the U. S. Government Printing Office, Washington 25, D. C.) Several metropolitan utilities are contemplating the construction of buildings based on the recommendations contained therein, according to FCDA spokesmen.

The study as a whole had the co-operation of the American Society of Civil Engineers and the American Institute of Architects, together with representative members of the National Society of Professional Engineers, and government authorities concerned with atomic effects. Further simplification by engineering societies and schools, and by individual architects and engineers, is urged by the authors "in order to obtain nation-wide acceptance of this new design procedure." They explain that they have released the study now "simply as an introduction to this new field of structural design . . . due to the immediate need for information."

"The new design methods for the atomic age may also be used to estimate the shelter value of existing structures, or parts of them, such as vaults, subbasements, utility tunnels, and other spaces originally designed for purposes other than the emergency protection of people and essential public service," CD officials advise.

Close FCDA co-operation is maintained with the National Security Council's Facilities Protection Board.

# The March of Events

## In General

### FPC Suspends Rate Increase

THE Federal Power Commission recently suspended a proposed wholesale natural gas rate increase, totaling $3,511,489 annually, or 13 per cent, based on estimated sales for the next twelve months, by Natural Gas Pipeline Company of America, of Chicago, Illinois. The increase would have gone into effect on November 1st.

The proposed increase, which affects 16 of Natural's 17 wholesale customers, is suspended pending hearing and decision by the commission. However, under the Natural Gas Act, the increase may be put into effect under bond, subject to the refund of any amounts subsequently disallowed by the FPC, if the proceeding has not been concluded after five months.

The commission said that the cost studies submitted by Natural do not appear to support the proposed increase.

## California

### Electric Rates Increased

THE state public utilities commission last month granted a $30,642,000 annual rate increase to the Pacific Gas and Electric Company, effective November 10th.

The commission declared the over-all increase in electric rates for all PG&E customers will be approximately 16 per cent.

More than half of the additional revenue will be used by the company to pay taxes. It will then have about $15,000,000 a year left to cover higher costs of materials and labor and to attract investments it needs to expand its system.

When it submitted its application on July 18, 1951, the company asked for an increase of 22 per cent, which would have given it an additional $45,704,000 a year. But the commission, following thirty-six days of public hearings, ruled that an over-all increase of 16 per cent would give the company's electric department an adequate return of 5.55 per cent on its investment. The increase is effective in 46 of California's 58 counties and involves 1,400,000 customers.

## New Jersey

### Rate Hearing Set

THE New Jersey Power & Light Company, which is seeking to increase its rates for electricity by $1,400,000 a year, was ordered recently by the state public utilities commission to appear at a hearing into the proposed increases on December 15th.

The commission also ordered the company, which has its main offices in Dover, not to put the increases into effect before February 15th unless a decision has been made before then on its application. The company had proposed to make the increases effective November 15th.

New Jersey Power & Light operates

in 26 municipalities in Hunterdon county, 24 in Sussex, 23 in Warren, 22 in Morris, 9 in Somerset, and one each in Mercer and Passaic counties.

It asked the increase because of its own higher taxes, increased labor and supply costs, and the fact that its rate base has increased as a result of new construction. The company said it received only a 5 per cent return on its original investment last year. This year, it said, the return will be less than 5 per cent and will be even lower in 1953 under present rates.

# New York

## FPC Urged to Investigate Request

CONTENDING that an increase in wholesale rates for natural gas sought by United Natural Gas Company is "excessive by a material amount," the state public service commission recently urged the Federal Power Commission to investigate the company's request and to suspend the proposed rate hike in the interim.

The commission estimates that new rates proposed by the company would increase charges to wholesale customers by approximately $1,750,000 annually, of which about $1,500,000 would apply to retail customers in New York state. The company's largest wholesale customer is Iroquois Gas Corporation, an affiliate of United Natural, serving Buffalo and other communities in western New York state. It also sells to Pennsylvania Gas Company, which serves Jamestown and adjacent territory in New York, as well as various communities in Pennsylvania.

# Pennsylvania

## Transit Authority Proposed

A PITTSBURGH TRANSIT AUTHORITY has been proposed as a means of solving the city's transportation tangle. The proposal was made last month as the Mass Transportation Study Committee discussed possible ways of unifying bus and streetcar operations.

Park H. Martin, executive director of the Allegheny Conference on Community Development, told the committee he thinks Allegheny county "is going to have to ask the legislature for an enabling act so an authority can be set up to operate mass transportation facilities."

The Mass Transportation Study Committee, set up earlier this year by the county commissioners, is now seeking ways to consolidate Pittsburgh's disjointed transit system.

The authority plan of unification was advanced after Mr. Martin declared that outright municipal ownership of transit facilities "has proved disappointing in other cities."

# Texas

## Tax Appeal Hearing Moved Up

THE third court of civil appeals of Texas last month moved up its hearing on the disputed state natural gas pipeline tax from January 21st to December 3rd.

Speedier action on the case was requested by attorneys of both the state and the pipeline companies which are attempting to nullify the tax.

Austin District Judge Jack Roberts has ruled the tax unconstitutional. The state appealed to the court of civil appeals.

The three "test cases" involved were filed by Panhandle Eastern Pipe Line Company, Michigan-Wisconsin Pipe Line Company, and Amarillo Oil Company.

# Progress of Regulation

## Interstate Sales of Electricity to Navy and to Municipality Subject to Federal Control

THE United States Court of Appeals for the Ninth Circuit upheld the decision by the Federal Power Commission in *Re* California Electric Power Co. (1951) 89 PUR NS 359, that it has jurisdiction over rates for electricity sold by California Electric Power Company to the Department of the Navy and to Mineral county, Nevada. The company operates an interconnected system for the generation and distribution of power in California and Nevada. It delivers energy from plants in the Mono basin system (hydroelectric projects licensed by the commission), and both customers transmit the energy over their own lines to Nevada.

Power purchased by the Navy is used to operate various facilities at a naval depot and to supply the needs of occupants of a housing project built for and occupied by civilian employees. Mineral county resells and distributes the energy to ultimate consumers in Nevada.

The court overruled a contention that the company, as a licensee under Part I of the Federal Power Act, is not subject to regulation under Part II. The court referred to the Supreme Court decision in Pennsylvania Water & Power Co. *v.* Federal Power Commission (1952) 343 US 414, 94 PUR NS 1, establishing the rule that a licensee under Part I may also be regulated as a public utility under Part II.

These transactions, said the court, manifestly constitute sales by a public utility of electric energy in interstate commerce, and it is of no moment that the company's facilities are located in California and that those used to transmit it across the state line are owned by the purchasers of the energy. Nor is it of consequence that in one instance the energy is transported across the state line by the United States. The question, said the court, is not whether the United States is in interstate commerce but whether the company is.

It had been urged that sales to the United States or to Mineral county are not at wholesale within the meaning of the Federal Power Act since § 201(d) defines sales at wholesale as sales to any person for resale, and neither the United States nor Mineral county is by definition a person. Municipalities, it was contended, are excluded from the definition of a person. The court said:

> The argument here predicated on § 201(d) was made to the seventh circuit in the recent case of Wisconsin-Michigan Power Co. *v.* Federal Power Commission (1952) 197 F2d 472, 94 PUR NS 515, where a number of municipalities were involved as purchasers for resale. Upon consideration of the legislative history and gradual development of the several provisions of the act, together with the policy of the legislation as a whole, the court concluded that Congress did not intend to exclude from its definition of sales at wholesale sales to municipalities for resale. . . .
>
> We agree with the seventh circuit that reference back to the early defini-

tions contained in Part I should not be permitted to thwart the general policy manifested by the statute as a whole. It seems more than probable that the significance of those definitions was overlooked in the later formulation of Part II.

The statutory declaration in § 201(f) that no provision should apply to or be deemed to include the United States, a state, or any political subdivision of a state, according to the court, intended their exclusion from the regulatory burdens of the statute, but the entire thrust of Part II is toward the seller at wholesale, not the buyer.

Arguments that part of the energy is not for resale were given no weight. The court observed:

> As to the rate at which the Navy sells, we agree with the commission that the public interest is involved in the company's rate to the Navy, whether the burden of possibly excessive rates were to fall on the ultimate consumer of the energy or on the nation's taxpayers.

The argument of lack of jurisdiction based on the percentage of power resold seemed to have resolved itself down to the proposition that the percentage consumed by the Navy should be held subject to state regulation and only the part resold regarded as subject to Federal regulation. That argument, said the court, had been disposed of in previous decisions, particularly the decision in Pennsylvania Water & Power Co. *v.* Federal Power Commission, *supra. California Electric Power Co. v. Federal Power Commission and County of Mineral, State of Nevada, and United States of America, No. 12,987, October 14, 1952.*

## Towns' Objection to Transmission Line Location Superseded by Commission Action

THE Massachusetts Department of Public Utilities held that it had authority to grant an electric company the right to locate wires which necessarily pass through one or more cities or towns to connect a proposed termini when a municipality has refused permission, actively or passively, to cross the public way, provided permission has been granted and accepted in two communities adjoining the city or town whose lack of co-operation is the reason for the proceeding. The department further held that the term "adjoining communities," from which permission must be had, means that such communities need not be tangent but merely adjacent at the point which is crossed by the transmission line. *Re Boston Edison Co. DPU 10044-10047, September 3, 1952.*

## Municipal Plant's Service Extension to Noncontiguous Territory Held Proper

A MUNICIPAL electric plant sought to serve a territory beyond an area contiguous to the municipality. The contiguous territory was served by an electric co-operative. A Federal district court held that the statute authorizing a municipal plant to extend service to contiguous and adjacent districts, and which also authorized service to noncontiguous areas within a reasonable distance of corporate limits, providing the intervening territory was unsettled and uninhabited, did not permit the municipality, by the term "adjacent," to leapfrog a settled area constituting a public utility district and to extend a distribution system into the territory beyond.

On rehearing, however, the municipal plant showed to the satisfaction of the court that it served the contiguous area also served by the electric co-operative. The court held that the municipal plant,

by methodically and in a businesslike manner serving the contiguous area, was not unlawfully leapfrogging such area to serve the territory beyond because the territory sought to be served, in this instance, would be adjacent and an extension would be proper. *Chugach Electric Asso., Inc. v. Anchorage, 106 F Supp 6.*

## Use of Electric Service Basis for Rate Classification Of Multiple Dwellings

THE superior court of Pennsylvania upheld a commission order approving an electric company's classification of certain residences as multiple dwellings for rate-making purposes. The owners occupied part of the buildings as their residences. One floor, consisting of two rooms and a kitchen in each house, had been rented to various family units. In each instance the leasing was upon a money rental. A single bathroom and other portions of the house, principally for access, had been used by the owner and the tenants in common. But the owners had been domestic customers of the company for many years, and electric service to the occupants of each house had been through a single meter.

Recently, however, the company had reclassified the residences and applied the rates applicable to combined residential and commercial uses. The owners of the buildings complained against this reclassification. The court held that a "multiple dwelling," to which the tariff is applicable, means a house occupied by more than one family unit. The company classified more than one family occupancy as a multiple dwelling only when each family had its own separate kitchen. Commenting on this, the court said:

> From a practical viewpoint the test is logical. The exclusive use of facilities for the preparation of food usually discloses a separate family group, and accepting a kitchen as evidence of that fact is not a strained metonymy. The kitchen is the lineal descendant of the classic hearth, the focal point of family life, where the household gods were enshrined. Families may double up if they live as one unit and use the same facilities, without affecting electric service rates. Clearly the demands of the two appellants on the defendant, in so far as they related to the leased premises, were demands for commercial as well as multiple dwelling use, to be calculated on the connected load basis making Rate V, Rider 12 applicable. The use made of the property is an important factor in determining the proper applicable rate.

The court held that it could not disturb commission findings amply supported by the evidence because the reasonableness of the classification was an administrative question. Also it said that the fact that the cost of service to these reclassified customers was no more than under the original classification was of no moment under the circumstances. *Sheets et al. v. Public Utility Commission, 90 A2d 633.*

## Payment for Cancellation of Discriminatory Rate Contract Not to Be Amortized As Expense

THE Federal Power Commission denied an application by Niagara Mohawk Power Corporation, as successor licensee to The Niagara Falls Power Company, for an order approving the amortization, by ratable monthly charges to operating expense, of $1,500,000 paid to the Aluminum Company of America for cancellation of agreements under which mechanical horsepower was supplied at rates determined to be discriminatory. The commission required the company to charge off the expenditure to earned surplus.

The company based its claim for amortization on the contention that it was a necessary expenditure to secure release from its contracts with ALCOA and to secure the advantages of selling the power at a higher price. Niagara, said the commission, had actually received only 1½ mills per kilowatt hour for power, in terms of electric energy, under its contract with ALCOA as compared with 3 mills per kilowatt hour received from electric customers. This was so discriminatory, in fact, the commission continued, that had the power been sold to Niagara's other customers, instead of to ALCOA, during the period 1928 to 1937, Niagara would have received more than $6,000,000 in additional revenues.

The New York commission, according to a court ruling, was without authority to abrogate the agreements, and therefore, said the Federal Power Commission, § 19 of the Federal Power Act would apply. This gives Federal control over rates of a licensee when no state agency has authority to regulate. The company, according to the commission, could have sought relief from these discriminatory rates, but had made no attempt to invoke the jurisdiction of the Federal commission.

The company also, ruled the commission, had not sustained its burden of proof that the amount was reasonable, in view of Niagara's failure to avail itself of factors extant at the time of the negotiations which, if used, might have given Niagara a bargaining advantage. The contracts were subject to a provision entitling ALCOA to discontinue taking power on notice, and at the time of the negotiations there was excess capacity in the aluminum industry. In fact, operations had ceased at ALCOA's plant.

The commission then went on to say that, assuming for the sake of argument that the company had shown both a necessity for the payment and that the amount was reasonable, it had still failed to justify the proposed accounting charge to future periods. The sale of mechanical power had long been relatively less profitable than the rest of the licensee's business and as an alternative to continuing that business, the licensee decided to take an immediate loss of $1,500,000 and quit that business entirely. It was a loss in the mechanical power business and it was incurred at the time the payment was made by terminating that business. There was said to be no warrant for calling the payment an asset of new business so as to justify charging it to the future. It was not an asset but a loss. Transferring a past loss to the future would have the deceptive effect of overstating past profits and understating future profits.

The fact that the New York commission and the Bureau of Internal Revenue had permitted the proposed accounting, the commission held further, did not help the company's case. The state commission had approved the accounting entry as an operating expense but said that it was not passing upon the reasonableness of the payment. The Bureau of Internal Revenue, without passing upon the question before the Federal Power Commission, had made a closing agreement allowing the licensee tax credits up to the year 1967. *Re Niagara Mohawk Power Corp. Opinion No. 237, Docket No. E-6264, October 3, 1952.*

## Other Important Rulings

THE New Jersey Board of Public Utility Commissioners dismissed a tavern owner's complaint against a telephone company's discontinuance of service at the request of the county prosecutor and affirmed an earlier decision (78 PUR NS 22) in which it had ruled that a company tariff providing for discontinuance under such circumstances was legal and proper. *Weinacht v. New Jersey Bell Teleph. Co. Docket No. 6904, October 15, 1952.*

The Kansas Supreme Court held that freight rates voluntarily established by carriers are practical and valuable aids in

rate making and, where traffic conditions are similar, may be used as the basis for fixing other freight rates in the territory where such voluntarily established rates are maintained. *Thompson v. State Corporation Commission et al. 246 P2d 257.*

The United States Court of Appeals held that a proposed railroad track 3.15 miles in length to be constructed to serve a proposed power plant was a spur track, and not an extension of the railroad's line requiring a certificate from the Interstate Commerce Commission, where the railroad had held itself out for twenty years as being ready to serve industry in the area. *Chicago, M., St. P. & P. R. Co. v. Chicago & E. I. R. Co. 198 F2d 8.*

The United States Court of Appeals held that the section of the Civil Aeronautics Act making it unlawful, without CAB approval, for a common carrier to acquire control of an air carrier applied where a common carrier acquired control of a newly organized company applying for authority to enter the air transportation field for the first time. *National Air Freight Forwarding Corp. et al. v. Civil Aeronautics Board, 197 F2d 384.*

A Federal district court held, in a proceeding by a railroad to set aside and enjoin an Interstate Commerce Commission order prescribing maximum rates on vegetables, that evidence concerning the alleged confiscatory nature of such rates could not be considered because the railroad was on notice of the nature of the proceedings and because such evidence was not presented to the commission in the first instance. *Baltimore & O. R. Co. et al. v. United States et al. 105 F Supp 631.*

A Federal district court held that exceptions in a motor carrier's certificate prohibiting the transportation of explosives and dangerous articles was not confined merely to dangerous explosives but included inflammable liquids and solids, oxidizing materials, corrosive liquids, compressed gases, and poisons. *Houff Transfer v. United States (US Dist Ct Va 1952) 105 F Supp 847.*

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# Re Colorado Interstate Gas Company

Opinion No. 235, Docket No. G-1115
August 8, 1952

INVESTIGATION *of natural gas pipeline company's rates pursuant to § 5 of the Natural Gas Act; rate reduction ordered.*

*Valuation, § 102 — Accrued depreciation — Straight-line basis.*

1. The straight-line, service-life basis of depreciation was used for the purpose of determining accrued depreciation in fixing natural gas pipeline rates, p. 101.

*Valuation, § 104 — Accrued depreciation — Reserves.*

2. It is not the practice, in determining accrued depreciation, to adjust depreciation reserves either upward or downward whenever changing circumstances make necessary minor revisions of current depreciation rates unless the book reserves were accumulated through haphazard, unsound, or improper accounting methods, p. 101.

*Valuation, § 299.1 — Working capital allowance — Effect of tax accruals.*

3. A natural gas pipeline company's cash available by reason of the collection of Federal taxes from customers in advance of payment should be excluded from the cash working capital allowance for rate-making purposes to the extent of 75 per cent of the amount of Federal income tax allowed for the test period, p. 103.

*Expenses, § 95 — Salaries and wages — Projected increases.*

4. Salary and wage increases which had actually been granted were allowed as operating expenses for rate-making purposes, whereas projected future increases were disallowed, p. 104.

*Expenses, § 49 — Employees' welfare and pension expenses.*

5. A natural gas pipeline company's employee welfare and pension expenses which are actually being incurred may be allowed as operating expenses for rate-making purposes, but estimated increases in such expenses which are not in fact being incurred and which are not anticipated in the immediate future may not be allowed, p. 105.

*Expenses, § 89 — Rate case expenses — Anticipated court review.*

6. The estimated cost of seeking court review of a rate order which has not as yet been rendered may not be allowed as an operating expense for rate-making purposes, since it is entirely speculative and conjectural, p. 109.

*Expenses, § 92 — Rate case expenses — Amortization period.*

7. A natural gas pipeline company's rate case expenses were amortized over a 5-year period for rate-making purposes, p. 109.

*Return, § 101 — Natural gas pipeline company — Cost of capital.*

8. A return of 5¾ per cent, which would provide a return for a natural gas pipeline company's common stock equity of 8.45 per cent, after servicing

of debt and preferred stock requirements, and after allowance for all income taxes, was considered fair, reasonable, and adequate to assure confidence in the financial soundness of the company, to maintain its credit, and to enable it to attract necessary capital, p. 112.

*Apportionment, § 4 — Cost allocation.*

9. Considerations of fairness rather than mere mathematics govern the allocations of costs, and the reasonableness of the result is essential to the validity of any method of allocating joint costs of a natural gas pipeline company, p. 115.

*Apportionment, § 31 — Natural gas pipeline company — Gasoline operations.*

10. The costs and revenues applicable to the gasoline operations of a natural gas pipeline company were allocated according to the relative market value theory rather than the volumetric basis, p. 115.

*Apportionment, § 31 — Natural gas pipeline company — Income taxes.*

11. The apportionment of a natural gas pipeline company's cost of service between jurisdictional and nonjurisdictional sales was adopted with respect to the assignment of the company's total Federal income tax between production, transmission, and distribution functions on the ratio that the return calculated for each function would bear to the total return, p. 120.

*Apportionment, § 31 — Natural gas pipeline company — Production costs.*

12. Production costs are properly classified as commodity costs for the purpose of apportioning a natural gas pipeline company's total cost of service between jurisdictional and nonjurisdictional sales, p. 121.

*Apportionment, § 31 — Natural gas pipeline company — Compression station labor.*

13. A natural gas pipeline company's compressor station labor should be classified equally between demand and commodity for the purpose of making a fair and equitable allocation of total costs between jurisdictional and nonjurisdictional business, although compressor station supplies and expenses, including fuel and the maintenance of compressor station equipment, should be classified wholly to commodity, p. 122.

*Apportionment, § 31 — Natural gas pipeline company — Depreciation.*

14. A natural gas pipeline company's depreciation was classified equally between demand and commodity for the purpose of making a fair and equitable allocation of total costs between jurisdictional and nonjurisdictional business, p. 123.

*Apportionment, § 31 — Natural gas pipeline company — Return items.*

15. The return of a natural gas pipeline company was classified equally between demand and commodity for the purpose of making a fair and equitable allocation of total costs between jurisdictional and nonjurisdictional business, p. 123.

*Apportionment, § 31 — Natural gas pipeline company — Income taxes.*

16. A natural gas pipeline company's income taxes were classified between demand and commodity for the purpose of making a fair and equitable allocation of total costs between jurisdictional and nonjurisdictional business, p. 123.

*Apportionment, § 31 — Natural gas pipeline company — Dehydration costs.*

17. All dehydration costs of a natural gas pipeline company, including taxes, depreciation, and return, should be classified wholly to commodity for the purpose of making a fair and equitable allocation of total costs between

jurisdictional and nonjurisdictional business, since dehydration costs are directly related to the volume of gas processed, p. 123.

*Apportionment, § 31 — Natural gas pipeline company — Distribution costs.*

18. The classification of a natural gas pipeline company's distribution costs 50 per cent to commodity and 50 per cent to customers on the basis of metering units was considered more reasonable and accurate than demand-commodity classification for the purpose of making a fair and equitable allocation between jurisdictional and nonjurisdictional business, p. 123.

*Apportionment, § 31 — Natural gas pipeline company — Demand costs.*

19. The normal peak day for the test year was considered the more reliable measure for allocating the demand costs of a natural gas pipeline company for the purpose of making a fair and equitable allocation of total costs between jurisdictional and nonjurisdictional business, p. 124.

*Apportionment, § 31 — Natural gas pipeline company — Transmission line costs.*

20. The transmission line costs of a natural gas pipeline company should be allocated to transmission line sales for the purpose of making a fair and equitable allocation of total costs between jurisdictional and nonjurisdictional business when all production costs have been classified as commodity costs, p. 124.

*Rates, § 13 — Jurisdiction of Federal Power Commission — Authorization of rate increase.*

21. The Federal Power Commission may not order an increase in natural gas pipeline rates to one customer even though the effect of its order is to produce less total over-all revenues, p. 26.

APPEARANCES: James L. White of New York, N. Y., and Charles E. McGee of Washington, D. C., for Colorado Interstate Gas Co; E. A. Stansfield of Denver, Colo., for Public Service Company of Colorado; B. A. Foster, Assistant General Counsel, and Jacob Goldberg, Attorney, of Washington, D. C., for the Staff of the Federal Power Commission.

By the COMMISSION: On September 2, 1948, the Commission instituted an investigation pursuant to § 5 of the Natural Gas Act, 15 USCA § 717d, to determine whether any rate, charge, service, or classification observed, charged, or collected by Canadian River Gas Company (Canadian River) and Colorado Interstate Gas Company (Colorado) for or in connection with the transportation or sale of natural gas subject to the jurisdiction of the Commission is unjust, unreasonable, unduly discriminatory, or preferential. Said § 5 of the Natural Gas Act empowers the Commission to determine the just and reasonable rates to be thereafter observed and in force and to fix the same by order on a finding after hearing that any such rate is unjust, unreasonable, unduly discriminatory, or preferential.

Petitions to intervene in the proceeding were filed by Public Service Company of Colorado, Natural Gas Pipeline Company of America, Public Utilities Commission of the state of Colorado, the city of Denver, and the city of Colorado Springs, all of which petitions were granted.

Pursuant to our order of investigation, an extensive field examination of

the books, records, facilities, and operations of respondent[1] was made by our staff. Hearings in this proceeding commenced on October, 1951, and concluded on April 4, 1952. Exhibits numbering 44 were received in evidence and 1,798 pages of testimony were recorded. By order of May 23, 1952, we omitted the intermediate decision procedure in this matter and fixed June 9, 1952, as the date for oral argument before the Commission. The staff of the Commission and the respondent companies introduced evidence in this proceeding. None of the intervenors offered any evidence, filed briefs, or took part in the oral argument.

Following the oral argument before the Commission, by letter of June 11, 1952, counsel for Colorado transmitted

(1) a copy of the minutes of the meeting of the board of directors of Colorado held on March 10, 1952;

(2) a copy of the minutes of the meeting of the board of directors of Colorado held on May 16, 1952;

(3) a copy of the post-effective amendment to the registration statement filed by Colorado with the Securities and Exchange Commission on April 30, 1952.

In his letter of transmittal, counsel for Colorado requested that these three documents be considered a part of the record in this proceeding. Accordingly, they may be deemed to be incorporated into the record in this proceeding by reference to the official files of the Commission, and they are hereby identified as items R, S, and T, respectively.

Colorado owns and operates extensive natural gas production, gathering, and processing facilities in the West Panhandle field of Texas and also purchases and processes large volumes of natural gas in the Hugoton field of Kansas. Colorado also owns and operates a transmission pipeline system extending from such fields to its terminal market area at Denver, Colorado. Sales are made from such pipelines to distributing utilities for resale and to industrial customers. Colorado admits that it is a "natural-gas company" under the act. Respondent's rates have been the subject of another Commission rate proceeding in Re Colorado Interstate Gas Co. (1942) 3 FPC 32, 43 PUR NS 205, affirmed (1945) 324 US 581, 89 L ed 1206, 58 PUR NS 65, 65 S Ct 829.

The staff of the Commission presented evidence from which the staff concluded that the rates of Colorado subject to our jurisdiction should be reduced by the sum of $3,227,287. Colorado contends, however, that it is not earning sufficient revenues to yield a fair return on its jurisdictional sales.

We have carefully considered the entire record including the briefs, oral arguments, and requested findings. Our findings and conclusions, hereinafter set forth, are dispositive of each and every one of the requested findings. It is our opinion that the presently effective rates and charges of Colorado are unjust, unreasonable, and

[1] Subsequent to the initiation of this proceeding but prior to the commencement of hearings, the Commission authorized Colorado to acquire by merger the properties of Canadian River. Said merger was consummated on December 31, 1951. Hereafter, therefore, when we refer to respondent, the reference will include both companies unless the text of the opinion otherwise indicates.

excessive and should be reduced as hereinafter ordered.

The following table summarizes the difference between the staff and Colorado with reference to the rate base, and the various elements which make up the cost of service. We will discuss these differences and thereafter take up the various issues relating to cost allocation and the form of rates.

| | Staff | Colorado | Difference |
|---|---|---|---|
| RATE BASE | | | |
| Average Balance | | | |
| Plant in Service | $73,162,834 | $73,162,834 | $..... |
| Plant Held for Future Use | 269,213 | 269,213 | ..... |
| | $73,432,047 | $73,432,047 | $..... |
| Less: | | | |
| Average Reserve for Depreciation and Depletion | 18,182,793 | 18,253,259 | 70,466 |
| Contributions in Aid of Construction | 139,302 | 139,302 | ..... |
| Net Investment in Plant | $55,109,952 | $55,039,486 | $(70,466) |
| Working Capital | | | |
| Cash Allowance | 673,363 | 779,623 | 106,260 |
| Material & Supplies | 1,381,331 | 1,381,331 | ..... |
| Total Rate Base | $57,164,646 | $57,200,440 | $35,794 |
| REVENUES | | | |
| Gas Service Revenues | $17,962,532 | $17,962,532 | $..... |
| Other Gas Revenues | 1,141,520 | 1,141,520 | ..... |
| Total Revenues | $19,104,052 | $19,104,052 | $..... |
| COST OF SERVICE | | | |
| Operating Expenses | $8,417,707 | $9,282,680 | $864,973 |
| Depreciation and Depletion | 2,595,427 | 2,736,361 | 140,934 |
| Taxes Other than Federal Income | 1,835,229 | 1,898,994 | 63,765 |
| Federal Income Taxes | ..... | 2,306,808 | 2,306,808 |
| Return | 3,286,967 | 3,718,028 | 431,061 |
| Loss on Gasoline Operations | (585,528) | ..... | 585,528 |
| Total Cost of Service | $15,549,802 | $19,942,871 | $4,393,069 |

*Test Period*

There is no dispute as to the test period, both the staff and Colorado using the calendar year 1952. The basic figures presented which was based on the most recent actual past operating experience adjusted to reflect known changes combined on a pro forma basis for the merged corporation including the facilities authorized at Dockets G–1326 and G–1677 which went into operation in part in 1951 and the balance in 1952. We are of the opinion and find that the appropriate test period is the calendar year 1952.

*Rate Base*

**[1, 2]** As shown by the above table, the net difference of $35,794 between the staff and Colorado as to the rate base for 1952 relates to the amount deducted for accrued depreciation and depletion and to the cash allowance for working capital. The difference of $70,466 in the average balance for depreciation and depletion flows from the divergent methods used by Colorado and the staff in determining the annual depreciation provision for the year 1952. As will be noted from the cost of service section of the foregoing table, such difference in the annual ex-

pense for depreciation and depletion amounts to $140,934. The effect upon the average depreciation reserve balance is about one-half of that sum.

The staff made a comprehensive study of the company's facilities, its gas reserves, and retirement experience and from such study developed service lives for each particular segment of the company's property. The testimony shows that major consideration was given to the functional or economic life of the enterprise. Colorado's claimed annual allowance for depreciation was based upon the method which it has followed since January 1, 1948, in accounting for depreciation on its books.[2] Under this method which it terms the "remaining service life method" the annual provision is determined by taking the average net investment for the year and dividing it by the estimated number of years life remaining of the company's properties. The company estimated the remaining life of its properties to be twenty-five years from January 1, 1948.

Prior to the adoption of such method on January 1, 1948, and since the conclusion of the earlier rate proceeding in Re Colorado Interstate Gas Co. (1942) 3 FPC 32, 43 PUR NS 205, the company had also followed the straight-line, service-life basis of depreciation as determined by the Commission in that case. It presented no evidence which would justify a departure from the straight-line, service-life basis of depreciation which we determined in the prior rate proceeding and which the staff has used herein. The company's contention appears to be that the service-life method is inappropriate as there is no present basis for the projection of its present gas reserves beyond 1972 and refers to a statement in our decision (Re Colorado Interstate Gas Co. Opinion No. 209, Docket No. G–1326, March 20, 1951) as authority therefor. Colorado has misinterpreted such statement for what we there said related solely to Canadian's acreage in the West Panhandle field and was not an appraisal of the company's over-all reserve picture or economic life.

The resulting difference between the staff and the company in the annual depreciation provision for 1952 exclusive of that portion relating to the additional facilities authorized in Docket Nos. G–1326 and G–1677 amounts to $44,258. As to such additional facilities the difference amounts to $96,676. The staff witness recommended a 25-year service life for these new facilities based upon his appraisal of the reserves of Colorado in the West Panhandle field, the Hugoton field and the additional reserves proposed to be and in fact subsequently acquired by Colorado in the Keyes fields in South Keyes fields in Oklahoma. Under the company's remaining life method, Colorado computed the annual provision for 1952 on a remaining life of twenty and one-half years for the facilities proposed to be placed in service during such year.

From our review of the record we are convinced that the service lives recommended by the staff witness are reasonable and proper under the circumstances and we therefore find that

[2] The "remaining service life" method accounts for approximately 85 per cent of the annual provision for depreciation and depletion the remainder being calculated on the unit of production and other bases.

such service lives should be used in computing the annual depreciation provision for 1952.

Colorado argues that a major defect exists with respect to the staff's depreciation studies contending that as no correlation was made between annual and accrued depreciation, which, if made, would result in a lesser amount for accrued depreciation thus effecting an increase in the rate base. It seems hardly necessary to point out that the reserve for depreciation could not properly be adjusted for past accrued depreciation relating to the property certificated in Docket Nos. G–1326 and G–1677, since most of such properties did not go into service until 1952. Therefore the alleged lack of correlation could only arise from the small annual difference of $44,258 applicable to Plant other than that authorized in the above dockets.

It has not been the practice to adjust depreciation reserves either upward or downward whenever changing circumstances makes necessary minor revisions of current depreciation rates. We have, in some instances, used the reserve requirement when we found that book reserves were accumulated through haphazard, unsound, or improper accounting methods.[3] On this record we could not make such a finding.

Accordingly, we find that the accrued depreciation and depletion to be deducted in determining the rate base for 1952 is $18,182,793.

*Working Capital*

[3] Both the company and staff computed the allowance for Working Capital in the same manner, the difference of $106,260 being due to the fact that the sum used for operating expenses by Colorado in computing cash Working Capital (as one-eighth of operating expenses less purchased gas and certain other deductions) exceeded that used by the staff by the amount of $850,080. Based upon our determination as hereinafter set forth of the appropriate sum to be allowed for operating expenses we find that the amount of Working Capital before applying any adjustment for advance collection from customers by Colorado of sums to cover Federal income tax obligations to be $2,078,235. The staff did not make any adjustment for such advance tax collections. Under the staff's recommended reduction in rates no Federal income tax liability would be incurred by Colorado. Since, however, the determinations which we have made herein will result in Colorado's having a Federal income tax liability, it is appropriate that the principles which we have enunciated in the recent cases[4] be applied in the instant proceeding. We find that Working Capital as computed above of $2,078,235 should be reduced by $139,199 which is 75 per cent of the Federal income tax of $185,599 which tax we find would be appropriate for the year 1952. Thus the appropriate Working Capital allowance becomes $1,939,036 instead of $2,054,694 shown on page 4.

We, therefore, find that the rate base of Colorado for the year 1952 upon which it is entitled to earn a

[3] Re Interstate Power Co. (1939) 2 FPC 71, 82, 32 PUR NS 1; Re Hope Nat. Gas Co. (1942) 3 FPC 150, 168, 44 PUR NS 1.

[4] In Re Alabama-Tennessee Nat. Gas Co. (1952) Opinion No. 226, 94 PUR NS 426; Re Transcontinental Pipe Line Co. (1952) Opinion No. 227, 94 PUR NS 333.

fair return is $57,048,988 instead of $57,164,646 as shown on the same table.

*Operating Expenses*

Colorado's claim for operating expenses during the test year exceeds the recommended allowance by the staff for such item in the amount of $864,973. Of this amount, $810,517 represents alleged increases in operating costs which were not presented by Colorado as part of its case in chief but which were submitted after the staff concluded its rebuttal evidence. Various elements comprising the difference of $864,973 are discussed below.

*Wages and Salaries—$342,529.*

[4] To the original claim for salaries and wages of $2,717,705 for 1952, which claim was accepted by the staff, Colorado has added estimated increased wages and salaries of $342,529. Such amount is of two categories, each computed in a different manner. Colorado first took the January, 1952, payroll for general officers and general office employees added 4 per cent thereto and multiplied the result by 12 to arrive at an annual cost of $670,092. This amount is $165,481 in excess of the annual amount originally claimed by the company and accepted by the staff. The above-mentioned 4 per cent was added to take care of projected future increases in wages and salaries during the year 1952. Admittedly, the added 4 per cent is not a cost being currently incurred or that can reasonably be projected for the future. Indeed it is purely speculative and conjectural.

The record also shows that the payroll for the month of January includes some overtime pay arising from the merger with Canadian River Gas Company which became effective January 1, 1952. The record does not support the assumption that this one month's experience by itself is a sufficient guide to measure the cost of general officers' and general office employees' salaries for the year 1952.

But the record shows that effective January 1, 1952, a cost of living increase of 4.16 per cent was given to employees in these classifications. This increase in salaries should be recognized and we, therefore, increase the original claim by the amount of $20,992 based upon the 4.16 per cent of the amount originally estimated.

Colorado increased the salaries and wages paid to other classifications of employees over the original estimate by an amount of $177,048. This amount is 8 per cent of the salaries and wages originally claimed for 1952. The record shows that effective January 1, 1952, Colorado did grant its employees in these classifications a 4 per cent average increase in wages and salaries. This amount is computed at $88,524, which sum we add to the original claim.

The projected second 4 per cent increase is, like the similar item mentioned above, a speculative and conjectural increase. We are here allowing all increases in wages and salaries which are supported in this record. We do not, however, deem it our responsibility or duty to speculate as to what future wage increases, if any, may be granted by Colorado. For the foregoing reasons we find that Colorado's claim for an allowance for wage increase of $342,529 must be

rejected except for the sum of $109,516 which we allow.

*Employees' Welfare Expenses and Pensions—$306,727*

[5] Colorado has included in its cost of service estimated increases for employee benefits consisting of $14,816 for Group Hospitalization, $13,887 for Group Life Insurance, and $278,024 for Pensions. While the employees of Colorado are not presently enjoying any of these proposed benefits nor is Colorado incurring any of the proposed costs, we are asked to allow them on the assertion that unless we do so these benefits could not be undertaken or if undertaken would reduce Colorado's return below the amount allowed. It has been our consistent policy to make full allowance in rate proceedings for all costs of employees' benefits actually incurred and we do so here. We would unhesitatingly allow these particular items if there were any reasonable degree of certainty as to their effectiveness but no such assurance was given upon this record. Moreover, it was admitted unequivocally by the company's witness that these employee benefit proposals are purely in the planning stage.

In reference to the Employees' Welfare and Pension Plans, Colorado made the following statement in a registration statement and prospectus filed with the Securities and Exchange Commission on April 2, 1952, and which is in this record:

"During 1951 employees paid approximately $87,600 under these several plans, while the company's payment approximated $115,400. *Under the present plans it is not anticipated that there will be an appreciable increase in cost in 1952.* Consideration is being given to revisions in the Group Life Insurance Plan, Group Hospitalization and Surgical Benefits Plan, and Retirement Plan, so as to provide increased benefits under these plans. The possible revisions being considered might increase the cost of such plans to the company by as much as $307,000 during 1952, *but the board of directors has not yet come to any conclusions as to the adoption of any such revisions.*" (Emphasis supplied.)

In the face of such statement, it is not reasonable to burden the ratepayers with a substantial item of cost when such costs are not in fact being incurred and when there is no evidence in the record to indicate when such costs would be incurred.

If, in the future, this question of employee benefits be resolved by management and its employees the way is open under the Natural Gas Act for the recovery through rates of such additional costs as may be actually experienced. Assuming no great lapse of time occurs before the question is resolved, all of the facts in the instant proceeding will be before the Commission and it can act promptly upon the request of Colorado when made.

We, therefore, reject Colorado's claim for estimated increases in Employees' Welfare Expenses and Pensions in the amount of $306,727.

*Director and Executive Committee Payments—$75,000*

In its revised cost of service computation for 1952, Colorado has included the amount of $75,000, representing $5,000 fees for each of its directors

who are not full-time employees of the company; $30,000 for the chairman of the executive committee, and $15,000 for other members of the executive committee who are not full-time employees of the company, such payments to become effective April 1, 1952.

The fees in question were authorized at a special meeting of the directors of Colorado held on March 10, 1952, at 30 Rockefeller Plaza, New York city. Four of the seven[5] directors were present: Messrs. Joseph H. King, Robert W. Hendee, F. T. Parks, and W. A. Dougherty.[6]

At the aforesaid meeting the board approved the filing, with the Securities and Exchange Commission, of a registration statement covering the sale of 971,480 shares[7] of Colorado's common stock par value $5 per share owned by the Union Securities Corporation group[8] and Sinclair Oil Corporation. Prior to such sale the Union Securities group owned 42½ per cent of Colorado's common stock acquired in 1947 from Standard Oil Company (N.J.). Southwestern Development Company owned 42½ per cent and Public Service Company of Colorado owned 15 per cent of Colorado's common stock.

Sinclair Oil Corporation acquired 21.69 per cent of Colorado's stock by reason of its ownership in Southwestern Development Company[9] and the Mission Oil Company acquired 20.11 per cent of Colorado's stock also by reason of its ownership in Southwestern. As a result of the public sale on April 2, 1952, of Colorado's stock, Sinclair Oil Corporation no longer holds any of such shares and the Union Securities group apparently now owns only 126,449 shares out of the 726,757.05 shares originally held.[10]

Prior to the foregoing action of March 10th, all directors of Colorado received an attendance fee of $50 per meeting plus expenses. This fee was increased to $100 per meeting by the board at the March 10th meeting and in addition the board, with one of the four members present dissenting,[11] voted to give each director, not a full-time employee of the company, $5,000 per year for his services.

[5] Two directors were absent and there was one vacancy.

[6] Mr. King is a director and president of the Union Securities Corporation, 65 Broadway, New York city; Mr. Hendee is president of Colorado Interstate, Colorado Springs, Colorado; Mr. Parks is a director and vice president of the Public Service Company of Colorado, Denver, Colorado, the largest resale customer of Colorado Interstate; Mr. W. A. Dougherty, 30 Rockefeller Plaza, New York city, is vice president and general counsel of Colorado.

[7] The stock was initially registered on the basis of the sale of 966,000 shares; however, it appears that the Underwriters actually sold an aggregate of 988,905 shares at the public offering price of $26.75 per share—22,905 shares having been oversold on allotments. The several Underwriters covered their short position by purchasing 13,688 shares from Sinclair Oil Corporation and the remaining shares upon the open market.

[8] This group consists of Union Securities Corporation, A. C. Allyn & Co., Inc., Equitable Securities Corporation, and Stifel Nicolaus & Co., Inc.

[9] By order of December 21, 1951, the Securities and Exchange Commission approved a plan of corporation simplification relating to Sinclair, Southwestern Development Company, and The Mission Oil Company under § 11 of the Public Utility Holding Company Act of 1935, 15 USCA § 79k. Among other things the plan provided for the sale to the public of the common stock of Colorado Interstate to be acquired by Sinclair as the result of its holdings of 51 per cent of the common stock of Southwestern and 3.98 per cent of the common stock of The Mission Oil Company which in turn owned 47.28 per cent of the stock of Southwestern.

[10] Union Securities Corporation sold 345,176.43 shares out of a total owned of 362,865.52.

[11] Mr. F. T. Parks, director and vice president of Public Service Company of Colorado.

At the same meeting, the directors elected three of their number to a newly created executive committee, two of whom were representatives of Union Securities Corporation and Sinclair Oil Corporation, respectively. Whereas previously, members drew no separate compensation for their services on the old committee, the board over the opposition of the same member voted to fix the compensation of those members not full-time employees of the company at $30,000 annually for the chairman and $15,000 for other members. The representative of Union Securities Corporation was made chairman.

At a further meeting of the board of directors of Colorado held on May 16, 1952, at the offices of the company in Colorado Springs, Colorado, at which six of the seven directors were present,[12] it was noted on the minutes that the representative of Sinclair was no longer a member of the board of directors of Colorado due to a requirement of the Securities and Exchange Commission that such representative resign upon the sale by Sinclair of the Colorado common stock received from Southwestern Development Company.

At the meeting of May 16th, Mr. W. A. Dougherty replaced the Sinclair Oil representative on the executive committee. The board also increased the annual salary of Mr. Hendee at this meeting from $36,000 to $45,000.

In the calendar year 1951, Colorado expended for salaries of its general officers and executives the sum of $73,714 while Canadian River Gas Company expended $33,929.30, or a total for the two corporations combined of $107,643.30. The amount originally estimated by Colorado for the year 1952 as compensation for its general officers was $103,889, thus the increases voted by the board of directors represent better than an 80 per cent increase in the cost of executive direction of this utility.

The action by a minority of the authorized board in voting themselves and absent directors additional compensation to be effective one day prior to the public sale by their principals of most of their holdings of Colorado's common stock detracts greatly from Colorado's claim that "it is reasonable to contract for the services of men competent to forward the welfare of the company."

The action of Union Securities Corporation in placing its president, Joseph H. King, in an advantageous position to direct the affairs of Colorado just before it disposed of substantially all of its holdings of Colorado's stock is reminiscent of the Holding Company era involving investment banker control of public utilities through interlocking director.

In the face of these circumstances justification for such a large increase in cost, claimed on rebuttal when the hearing was on the verge of completion, was plainly required of Colorado. It was not enough for Colorado to simply assert that such fees were legally authorized; that it is reasonable to presume that those who will receive the fees will earn them, and that the future will fully vindicate the compen-

[12] Mr. Parks was absent. Mr. William G. Marbury, president of Mississippi River Fuel Corporation of St. Louis, Missouri, was elected, to fill the vacancy existing at the time of the March 10th meeting prior to the May 16th meeting.

sation of the directors and executives committee members.

On this record, we cannot find that the reasonableness of these fee payments (of $75,000) has been established. We, therefore, find that such payments may not be included as a part of Colorado's cost of service to be recovered through rates subject to our jurisdiction.

*Royalties—$86,261*

Colorado claimed payments of gas royalties for the test year of $1,422,730 which is $86,261 in excess of the amount originally estimated by Colorado and accepted by the staff. The revised estimate was premised upon settlement of a royalty controversy involving approximately 8 per cent of the gas produced by Colorado in the West Panhandle field. A royalty rate of one-eighth of 8 cents per thousand cubic feet at 14.65 p.s.i. was then applied by the company witness to all gas produced,[13] on the assumption that the company would have to pay this higher rate in the future to all royalty owners.

It is indisputable that the additional amount claimed for gas royalty payments at the time of hearings did not represent actual experience or contractual obligations. Certain events have transpired, however, since that time which lead us to the conclusion that such additional royalty payments have been removed from the realm of speculation. It appears that two additional law suits involving gas royalties have now been settled and that the board of directors, on May 16, 1952, authorized the management to negotiate with the other royalty owners on the same basis. For this reason, we allow the additional claim of $86,261 for gas royalties.

*Regulatory Commission Expense—$54,456*

The amount of regulatory Commission expense claimed by Colorado is $93,593 detailed as follows:

| | | |
|---|---|---|
| Regulatory expense per books, year ended September 30, 1951 | | $23,593 |
| Estimated expense Docket No. G-1115 before F.P.C. | $127,720 | |
| Estimated cost of court review | 95,000 | |
| Total estimated cost of rate case | $222,720 | |
| Amortization over approximate 3-year period | | $70,000 |
| Total Company claim | | $93,593 |

The staff recommended three adjustments to the company's claim as follows:

(1) Included in the Regulatory Commission Expenses, which were recorded in Colorado's books for the year ended September 3, 1951, is a $10,000 fee paid to Price Waterhouse & Company for the services of D. F. Houlihan who testified in behalf of Colorado in the merger proceeding, Docket No. G-1326. The staff eliminated such item as nonrecurring. Colorado takes exception to the adjustment on the basis that while this particular item might not be experienced again, other items of cost would occur in its place. Colorado's theory would involve an allowance based on speculation, a basis which has been repeatedly rejected by this Commission (Re Cities Service Gas Co.

[13] The record shows that approximately 50 per cent of the royalties were being paid on the basis of one cent per thousand cubic feet which were included in the original estimate of Colorado Interstate and accepted by the staff.

(1943) 3 FPC 459, 485, 50 PUR NS 65, 89). Moreover, no evidence was presented to show that the remaining amount of regulatory expense, i.e., $13,593, was inadequate on the basis of past experience or for future requirements. Accordingly the Houlihan fee is eliminated.

[6] (2) The claim of $95,000 by Colorado as the estimated cost of seeking court review of our order in this proceeding is entirely speculative and conjectural and we think not properly includible as part of the cost of service. (Driscoll v. Edison Light & P. Co. (1939) 307 US 104, 121, 83 L ed 1134, 28 PUR NS 65, 59 S Ct 715.) It is, therefore, rejected.

[7] (3) Colorado amortized its regulatory Commission expense applicable to this case over an approximate 3-year period, whereas the staff used a 5-year period. As we stated in the previous Colorado rate case, "It is customary to amortize such expenses over a period of five years, or more." 3 FPC 32, 55, 43 PUR NS 205, 226. No new significant facts appear here which would warrant a departure from the customary rule. Re Alabama-Tennessee Nat. Gas Co. (1952) 94 PUR NS 426. We, therefore, use a 5-year period of amortization.

*Depreciation and Depletion—$140,934*

We have heretofore discussed the above item under Rate Base, page 101. Suffice it to say here we find the annual provision for depreciation and depletion for the test year to be $2,595,427.

*Taxes Other Than Federal Income Taxes—$63,765*

The above amount relates to the state income taxes. The computation of such tax is geared to the amount of Federal income taxes allowed. Therefore, upon the basis of the computed Federal income tax liability as described in the section next following, we find the appropriate amount to be allowed for state income taxes to be $5,568.

*Federal Income Taxes—$2,306,808*

Federal income taxes are computed on the basis of return allowed and the various tax deductions to which Colorado is entitled. For this reason the amount allowable for Federal income taxes is the end result of other determinations of costs includible in the cost of service and of the appropriate tax deductions.

Colorado claims deductions for Federal income tax purposes of $1,578,089 whereas the deductions computed by the staff total $2,700,602. The differences are:

| | |
|---|---|
| Depreciation per books | $140,934 |
| Depletion—Tax return basis | 981,579 |
| Total | $1,122,513 |

We have dealt previously with the difference of $140,934 in the annual provision for depreciation and no further attention thereto at this point is required.

As for the $981,579, in computing the depletion allowance for Federal income tax purposes, Colorado used 3.17 cents per thousand cubic feet as the wellhead value of the gas produced by it in the West Panhandle field. The staff used a wellhead value of 5 cents per thousand cubic feet, the depletion allowance thereunder for tax purposes being $1,379,972 as compared with the allowance claimed by Colorado at the 3.17 cent value of $398,393. Under

the tax code a producer of natural gas is permitted an annual deduction for depletion amounting to 27½ per cent of the wellhead value but not to exceed 50 per cent of the net income. Without going into the mechanics of the so-called percentage depletion allowance it is sufficient for our purposes here to state that generally speaking the higher the wellhead value the greater the depletion allowance; the greater the depletion allowance the lesser the Federal income taxes; and the lesser the Federal income taxes the lower the cost of service.

The 5 cents per thousand cubic feet wellhead value was used by the staff in the instant proceeding because that was the value claimed by Colorado to support its application for a certificate of public convenience and necessity authorizing the merger into it of Canadian River at Docket No. G–1326. In that proceeding Colorado presented evidence to show that if a merger were authorized Colorado would be able to receive an increase in the wellhead value above the 3.17 cents which was the basis of the last settlement by the Bureau of Internal Revenue for the 1945 tax year. It was stated that such higher wellhead value would be at least 5 cents.

To show that the merger would be in the public interest, Colorado relied upon the substantial savings in Federal income taxes which would be brought about by an increased depletion allowance to offset the loss in revenues derived from the sale of liquid hydrocarbons which, under the merger, would be diverted in large part to Southwestern Development Company or its nominee. In the merger proceeding the company placed in evidence exhibits which showed that, based upon a 5-cent wellhead value for depletion purposes and a 45 per cent Federal income tax rate, the total tax benefit to Colorado Interstate for the period 1950-1972 would be $14,324,415. This same evidence is before us in this proceeding. Colorado has alleged no new facts nor are there any facts showing any change from the facts and testimony introduced by it in the merger proceeding. We conclude that the same evidence which supported and warranted our finding that 5 cents was a reasonable figure for tax depletion purposes supports and warrants a similar finding here. As a matter of fact, on April 24, 1951, Colorado filed an application for a certificate of public convenience and necessity at Docket No. G–1677 authorizing the construction and operation of additional facilities and in that application it included an income statement in which the depletion allowance for tax purposes was taken at the 5-cent wellhead value.

In our Opinion No. 209 (decided March 20, 1951) at pp. 14, 15, authorizing the merger, we had the following to say concerning the evidence which was there presented:

"As against this cost [the loss of the hydrocarbons] Colorado stands to gain an estimated $14,324,415 in tax benefits becoming available to the merged company by reason of the transfer to it of the percentage depletion allowance based on the production of both natural gasoline and natural gas from Canadian's acreage. We think that the weight of the evidence supports this forecast in tax savings. Such savings clearly will inure to the benefit of Colorado's cus-

tomers and the consumers of the Rocky mountain area.

". . . We cannot and do not here attempt to influence the depletion allowance ruling which will be made by the Bureau of Internal Revenue, but, from this record, we think that the basis upon which the tax savings to Colorado of $14,324,415 was estimated is a reasonable one." (Brackets supplied.)

While Colorado has insisted throughout the present proceeding that it is going to prosecute vigorously before the Bureau of Internal Revenue its claim for a depletion allowance of at least 5 cents per thousand cubic feet, it takes the position that until such decision is finally realized the value of 3.17 cents should be used in this proceeding.

We think Colorado's proposal is without merit after its representations made to us in the merger proceeding. Further, Colorado in equity and good conscience is estopped to deny the 5-cent value here. The tax credits which would redound to Colorado and its customers as a result of a merger were a necessary ingredient to our authorization thereof. Not only is Colorado retaining the benefits of the certificate which we issued at Docket No. G-1326 but Southwestern's nominee is receiving the liquid hydrocarbons given up by Colorado pursuant to the merger agreement estimated to amount to $1,428,780 for the year 1952. Such revenues would have effected a reduction in the cost of service of such amount had the merger not taken place.

That Colorado, in the merger proceeding, fully understood and intended that the tax credits should offset the loss in gasoline revenues and that the merger would not result in any additional costs to be borne by the ratepayers cannot be disputed. Its effort in this proceeding to negate its prior representations and position, thereby substantially increasing the cost of service cannot be justified. We would be derelict in our duty were we to follow Colorado's pleadings and allow the cost of service to be thus increased. Accordingly, we shall compute the depletion allowance for Federal income tax purposes at 5 cents per thousand cubic feet in lieu of 3.17 cents proposed by Colorado. On such basis we find the proper allowance for Federal income taxes to be $185,599, as shown by the following table:

COLORADO INTERSTATE GAS COMPANY
G-1115
Computation of Federal and State Income Taxes
Year 1952

| | | |
|---|---|---|
| Gas Service Revenues, as Estimated | $17,962,532 | |
| Less: Excess Revenues | 3,009,965 | $14,952,567 |
| Revenue from Gasoline Operations | | 1,104,020 |
| Other Gas Revenues—Rent | | 37,500 |
| Total Income | | $16,094,087 |

| | | |
|---|---|---|
| Deductions: | | |
| Operating Expenses | $8,613,484 | |
| Statutory Depreciation | 2,327,417 | |
| Statutory Depletion (Adjusted for Increased Royalties) | 1,356,251 | |
| State Income Taxes | 5,568 | |
| Taxes—Other | 1,835,229 | |
| Intangible Drilling Costs | 585,920 | |
| Cost of Removal | 26,395 | |
| Interest on Long-term Debt | 964,300 | |
| Amortization and Sundry | 12,025 | 15,726,589 |
| Normal Tax Net Income | | $367,498 |
| Less: Surtax Exemption | | 25,000 |
| Surtax Net Income | | $342,498 |
| Federal Income Tax: | | |
| Normal Tax at 30% | | $110,249 |
| Surtax at 22% | | 75,350 |
| Total | | $185,599 |
| State Income Taxes: | | |
| Computed as 3% of Federal Income Tax | | $5,568 |

*Rate of Return*

[8] The rate of return claimed by Colorado is 6½ per cent. The staff contends that a return of 5¾ per cent is fair, reasonable, and proper based upon the record in this proceeding. Since the difference between the staff and company as to rate base is only $35,794, the difference in return of $431,061, shown by the tabulation on page 101, is due almost entirely to the difference in the rate of return. We have in this record an abundance of evidence on the subject of rate of return including average yields for bonds of public utilities, railroads, and industrials as well as U. S. Treasury bonds; data on public offerings of natural gas bonds, preferred and common stocks; earnings-price ratios of various natural gas companies' common stocks; natural gas companies' capitalization ratios and data as to Colorado's outstanding securities, its earnings and financial requirements.

The capitalization of Colorado as of December 31, 1951, which is similar to the industry as a whole and which we find to be reasonable, is as follows:

| | | Amount | Per Cent |
|---|---|---|---|
| Long-term Debt | | $29,600,000 | 53.9% |
| Preferred Stock | | 2,000,000 | 3.6% |
| Common Equity | | | |
| Common Stock (1,711,016.6 shares) | $8,555,000 | | |
| Surplus | $14,759,000 | | |
| | | $23,314,000 | 42.5% |
| | | $54,914,000 | 100.0% |

The outstanding long-term debt of Colorado consists of four issues of long-term serial notes as follows:

| | |
|---|---|
| 2% Notes, due $400,000 semiannually May 1, 1952 through May 1, 1954 | $1,200,000 [14] |
| 2½% Notes, due $400,000 semiannually November 1, 1954 through November 1, 1964 | $8,400,000 |
| 3⅛% Notes, due $250,000 semiannually October 1, 1952 through April 1, 1969 | $8,000,000 |
| 3½% Notes, due $400,000 semiannually February 1, 1955 through August 1, 1969 | $12,000,000 |

The weighted average cost of such debt is 3.21 per cent. The outstanding preferred stock of the company bears a dividend rate of 6 per cent.[15] Colorado agrees that the actual cost of its long-term debt and preferred stock capital is as shown above but maintains that such costs do not take into consideration future needs in attracting new capital.

It is, of course, true that the most recent issue of notes sold by Colorado bears an interest rate of 3¾ per cent which rate exceeds the average rate of 3.21 per cent for all of its outstanding long-term debt. It may well be that Colorado, in the indefinite future, may find it necessary to incur a higher interest cost than the average rate it is now paying in order to raise additional debt capital. But Colorado's contention presupposes that rate making is not a continuing process and that appropriate adjustments of rates cannot be made when experience demonstrates that adjustment is required. We find that the actual cost of the company's outstanding long-term debt and preferred stock is a proper measure of the cost of borrowed money and of preferred stock funds in determining a fair rate of return for Colorado in this case.

Colorado strongly urges that it is entitled to a return on its equity capital of 11 per cent, and bases such claim upon the testimony of its witness Merrill that such rate of return is necessary if the company is to be able to maintain its credit and attract capital. Mr. Merrill's 11 per cent return for common equity was derived from selected earnings-price (net price to company) ratios of eight natural gas utility common stocks which were issued and sold between February, 1948 and October, 1951.[16] The record shows that these earnings-price ratios used by the witness were, with one exception, based on offerings to stockholders rather than to the public and thus were made at a considerable discount under prevailing market prices. It is generally recognized that such type of offerings do not represent the best prices that these companies could have received and, therefore, the results obtained therefrom cannot be wholly relied upon in determining the investors' appraisal of the cost of equity capital.

An objective study of the investors' appraisal of the common stocks of nine natural gas companies[17] held by the public indicates that during the five years ending August, 1951, investors have been requiring a return on the

[14] Excludes $800,000 of such notes due within one year included in current liabilities.

[15] The company has stated to the Securities and Exchange Commission that it will retire such presently outstanding stock on or before December 31, 1952.

[16] Three publicly offered issues of Tennessee Gas Transmission Company and one of American Natural Gas Co. with low earnings-price ratios were eliminated because according to the witness these companies had not developed their full earning power. He also eliminated one 1948 issue of Pacific Lighting Corporation which he considered on the high side.

[17] Natural gas companies reporting to the Federal Power Commission.

average on the issues sold publicly of around 8.3 per cent. The average earnings-price ratios of the outstanding common stocks of seven natural gas companies traded on recognized exchanges for the same period was 8.2 per cent with the average for the last twelve months of such period being 7.5 per cent and decreasing to 6.4 per cent at October, 1951. At the latest date shown by the record, July, 1951, the yields varied from 3.5 per cent to 6.4 per cent.

Persuasive evidence as to the cost of equity capital is provided by the experience of Colorado itself. On April 2, 1952, just two days prior to the conclusion of the hearings in this docket, two of the principal stockholders' groups of Colorado offered for sale to the public 966,000 shares of Colorado's common stock held by them. This was the first public offer ever made of Colorado's stock and the amount offered represented 56 per cent of the total common stock outstanding. As previously noted in this opinion, the record shows that the public offering was oversold. The stock was offered at $26.75 per share to net the selling stockholders at $25.25 per share. The book value of the stock as of the most recent date available preceding the sale (December 31, 1951) was $13.63 per share. Based on earnings for 1951 of $1.88 per share the earnings-offering price ratio is 7.03 per cent and the earnings-net price to the selling stockholders ratio is 7.44 per cent.

Colorado attempts to discount the earnings-price ratio resulting from the public sale of its stock, maintaining that the investors might have been willing to take a smaller return because of potential development of future earning power as a result of the merger. While the price which the investors were willing to pay for the common stock of Colorado may have been based in some degree upon the investors' appraisal of the growth possibilities of the merged corporation, it can be argued that the investors also took into consideration the instant rate proceedings and the substantial reduction in income available for common stock which might result therefrom, mention thereof having been made in the company's prospectus. It can only be concluded from the results of the sale that the selling stockholders were competing for the investors' dollar and likewise the investors were competing for Colorado's stock at the price at which it was offered. Under such circumstances the verdict of the market place is compelling evidence.

A rate of return of 5¾ per cent on the rate base which we have here used would provide a return for the common stock equity of Colorado of 8.45 per cent[18] after the servicing of its debt and preferred stock requirements and after allowance for all income taxes. Such return for equity capital is, we believe, wholly adequate in the light of the record in this case.

We therefore conclude and find that based on the record in this proceeding a rate of return of 5¾ per cent is fair, reasonable, and adequate to assure confidence in the financial soundness of the utility; to maintain its credit and to enable it to attract capital necessary for the proper discharge of its public duties.[19]

[18] After allowance for cost of financing of ⅛ per cent.

[19] Federal Power Commission v. Hope Nat. Gas Co. (1944) 320 US 591, 601, 603, 88 L ed

*Loss on Gasoline Operations*

[9, 10] In issuing a certificate of public convenience and necessity at Docket No. G–1326 authorizing Colorado to acquire the properties of Canadian River, we attached the following condition:

"The authorization herein granted for effectuating the acquisition and operation of Canadian's properties and facilities is upon the express understanding and condition that if, as a result of carrying out the terms and conditions in the transaction proposed as a part of the acquisition and merger of Canadian into Colorado whereby rights to liquid hydrocarbons in place are granted to Southwestern Development Company and whereby Colorado is to receive 50 per cent of the gross proceeds from the sale of certain liquid hydrocarbons and 15 per cent of the net revenue to be received by Colorado from the hydrocarbons resulting from the operation of Fritch Natural Gasoline Plant of Texoma Natural Gas Company, the costs properly allocable to such hydrocarbons exceed the amounts payable to Colorado pursuant to such transaction, then and in that case in any proceeding in which the effective or proposed rates of Colorado are under inquiry such excess shall not be considered as a cost of service to Colorado's natural gas customers and consumers."

There is no dispute that this condition was a reasonable one in the light of the record at Docket No. G–1326 and required by the public convenience and necessity. Colorado pursuant to the order issuing the certificate at Docket No. G–1326 has duly accepted the certificate and the conditions thereto attached. Nor is there any dispute as to the meaning and intent of the above-quoted condition. The question arising here is the determination of "the costs properly allocable to such hydrocarbons."

Under the merger agreement, as referred to in the above-mentioned condition, Colorado has agreed to produce, gather, and process the liquid hydrocarbons, contained in the wet gas stream, and turn over the finished natural gasoline to Southwestern Development Company or its nominee at the loading rack of the Bivins and Fourway gasoline plants operated by Colorado in the West Panhandle field. Upon the consummation of the merger, Southwestern denominated Westpan Hydrocarbon Company (Westpan) as the owner of the hydrocarbons and to whom delivery is to be made. Westpan, in turn, sells the finished gasoline, and after deducting ¼ cent per gallon as cost of marketing, remits 50 per cent of the gross revenues to Colorado. Additionally some of Westpan's liquid hydrocarbons are processed at the Fritch gasoline plant, owned and operated by Natural Gas Pipeline Company of America (successor to Texoma Natural Gas Company). The wet gas is produced and gathered by Colorado, brought by it to the Fritch plant; processed there, the dry gas being sold by Colorado to Natural Gas Pipeline Company, that company sells the finished gasoline, deducts its actual costs of operation and marketing, and remits the

333, 51 PUR NS 193, 64 S Ct 281; Bluefield Water Works & Improv. Co. v. West Virginia Pub. Service Commission, 262 US 679, 692, 693, 67 L ed 1176, PUR1923D 11, 43 S Ct 675; United R. & Electric Co. v. West, 280 US 234, 261, 262, 74 L ed 390, PUR1930A 225, 50 S Ct 123.

balance to Colorado pursuant to agreement with Colorado. Under the merger agreement, Colorado agreed to remit to Southwestern or its nominee 85 per cent of such net proceeds from the Fritch plant operations.

It remains, therefore, to determine whether the 50 per cent of the gross revenues received by Colorado from the gasoline operations at the Bivins and Fourway plants, and the 15 per cent received by it from Natural Gas Pipeline Company cover the costs properly allocable to the producing, gathering, and processing of the liquid hydrocarbons. Indeed, our opinion at Docket No. G–1326 recognizes that the "costs of producing, gathering, and extracting the natural gasoline" are to be considered. (Opinion No. 209, March 20, 1951, page 8.)

Colorado claims that the gasoline revenues which it receives under the merger agreement exceed the costs properly allocable to its gasoline operations in the Panhandle field by $624,985. The staff, however, contends that such revenues fall short of meeting the cost of producing and processing the gasoline by an amount of $585,528. We have not heretofore been concerned with a similar problem since it has not been necessary under our policy in rate cases to separate the costs associated with the production and processing of gasoline from total production cost as we have always included in the cost of service all costs and revenues applicable to the gasoline operations of a natural gas company. Thus, for the purpose of the instant proceeding we find it necessary to test opposing theories and to resolve wide differences of opinion and results.

It is recognized by both Colorado and the staff that inasmuch as the liquid hydrocarbons are contained in the wet gas stream, the cost of producing and gathering such wet gas stream to the inlet of the gasoline plants is a joint cost. The method of allocating such joint cost is one of the most important questions to be resolved. The staff allocated the joint well mouth and gathering costs on the basis of the relative market value theory of joint production, a method generally employed in the petroleum industry. Under this method the joint costs are apportioned to the finished product on the basis of the relative market values of such products. The direct costs incurred to make each product fully marketable are deducted from the respective market values of the finished products so as to determine relative market values at the point of processing where joint operations cease.

For the respective market values the staff recommended and used 5 cents per thousand cubic feet as the value of the dry gas, and as the value of the gasoline the total gasoline revenues for 1952 as estimated by Colorado, less the direct cost to make the gasoline marketable and other direct gasoline costs. The 5-cent value for the dry gas was based on the then latest reports of the Texas Railroad Commission as to the weighted average market price at the wellhead paid for gas being used and sold in the Panhandle field. The report of September 12, 1951, based on evidence submitted at a hearing before that Commission, states that the Texas Railroad Commission finds that the weighted average wellhead price being paid in the Panhandle field is 4.8526 cents per thousand cubic feet measured on a 16.4 pressure base.

Further, Colorado or its predecessor, Canadian River, paid the Texas production tax based on the market value of its gas at 4.33 cents per thousand cubic feet. The staff assigned all the costs of the gasoline plants to the gasoline operation, except such costs as applied to the steam and cooling facilities to dehydrate the gas entering Colorado's transmission line.

Colorado, on the other hand, allocated the well mouth and gathering costs on what it termed a volumetric method based on the shrinkage of the wet gas volume while being processed. The result of such method is that one per cent of the total well mouth and gathering costs of the wet gas processed at the Bivins and Fourway plants is assigned to gasoline and 99 per cent to the dry gas. Because the contract with Natural Gas Pipeline Company for the processing of the wet gas at the Fritch plant provides for a 2 per cent shrinkage allowance, Colorado allocated 2 per cent of the total well mouth and gathering costs of the Fritch gas to gasoline and 98 per cent to dry gas. The weighted average percentage of all the well mouth and gathering costs for all the wet gas processed at the three plants results in 1.27 per cent assigned to gasoline and 98.75 per cent to dry gas. Thus, of $4,323,547 claimed by Colorado as total well mouth and gathering costs for all the wet gas processed at these three plants, Colorado assigns $55,008 as the cost attributable to the gasoline operations, and the balance to the dry gas.

Colorado, additionally, treats the processing[20] of the wet gas within the gasoline plants up to and including the distillation unit as a joint operation. The balance of the processing is treated as a direct gasoline operation, except for an amount allocated to the dry gas for dehydration. In spreading the gasoline plant costs which it considers joint, Colorado used the same one per cent and 2 per cent basis which it used for the well mouth and gathering costs. The result is that out of total claimed costs of $1,012,603 for operation of the three gasoline plants, Colorado claims $570,617 as joint costs, $366,374 as direct gasoline costs, and $75,612 as direct dry gas costs. Then Colorado assigns $7,453, or 1.27 per cent, of the $570,617 joint costs to the gasoline and the balance of $563,164, or 98.73 per cent, to the dry gas. Thus a total of $638,776 ($563,164 of joint costs plus $75,612 of direct costs) is assigned to the dry gas and $373,827 to the gasoline operations out of total gasoline plant costs of $1,012,603.

Colorado contends that the relative value method is subject to such serious deficiencies upon application to the facts in this case that it breaks down. On the other hand the staff urges that the volumetric basis fails to recognize the economics of the natural gasoline business and produces an unreasonable result. We believe the Supreme Court of the United States cogently stated

[20] In brief, the processing involves bringing the wet gas in contact with mineral oil in vessels termed "absorbers." The heavier hydrocarbons in the wet gas are picked up by the mineral oil—such oil being circulated in a continuous process through the absorbers and in a distillation unit, the liquid hydrocarbons being separated from the oil in the latter. The liquid hydrocarbons are further processed through a stabilizer and gasoline treater to bring them to a commercial marketable grade of natural gasoline. The dry or residue gas stream flows from the absorbers to a dehydration unit and thence into the pipeline system.

the criteria to be applied in allocation matters when it said, "considerations of fairness, not mere mathematics, govern the allocation of costs." Colorado Interstate Gas Co. v. Federal Power Commission (1945) 324 US 581, 89 L ed 1206, 58 PUR NS 65, 72, 65 S Ct 829. Moreover, the reasonableness of the result is essential to the validity of any method of allocating joint costs. Accounting for Joint Costs, Harold G Avery, Accounting Review, April 1951.

We think neither the relative value method nor the volumetric method are entirely satisfactory, but from our study of the evidence we are of the opinion and find that the relative value method as applied by the staff produces a more reasonable and fairer result in our judgment than does Colorado's method. The record shows that during the year 1952 it is estimated that 45,143,140 gallons of natural gasoline will be processed at the three plants, the total market value of such gasoline being estimated at $2,482,600. This amount must be compared with the total costs assigned to natural gasoline operations by Colorado of $428,835. Thus, it is evident that the annual revenues from the sale of natural gasoline exceed by more than five times the costs allocated by Colorado to such operations after allowance for a return of 6½ per cent and the income taxes associated therewith. On a rate of return basis, the method followed by the staff would result in the gasoline operations earning a 15.8 per cent rate of return on the rate base assigned to such operations as compared to a rate of return resulting from Colorado's method of 163 per cent.

We next turn to the allocation methods and cost assignments within the gasoline plants themselves. As previously noted, the staff assigned all of the costs associated with the gasoline plant operation directly to natural gasoline other than those applicable to the dehydration of the pipeline gas. Colorado, on the other hand, divided the gasoline plant facilities between (1) joint dry gas and gasoline, (2) direct dry gas, and (3) direct gasoline, and assigned or allocated to these three classification operating expenses, depreciation, taxes, and return.

It is the position of Colorado that it is necessary for the efficient operation of its transmission line system to extract the liquid hydrocarbons from the gas since unless such liquids are extracted transmission line operations would be hampered and the lines would freeze up during low temperature conditions. The staff does not dispute that the removal of some liquids is necessary for operating purposes but maintains that the extraction of liquid hypdrocarbons through Colorado's plants is carried on to a much greater degree than necessary for transmission line operations.

There is no doubt that under the merger agreement Colorado is obligated by contract to install the facilities necessary to extract gasoline as would be installed by a prudent operator. Furthermore, it may be required to extract the liquid hydrocarbons to a point where the remaining heat content of the dry gas would not be less than 963 BTU's per thousand cubic feet. Under such agreement, Colorado is not a free agent to discontinue or curtail its gasoline operations[21] to

[21] Colorado has authority under the agreement to by-pass the gasoline plants in cases of emergency.

meet its transmission requirements and in fact may be called upon, under the merger agreement, to expand them substantially. It is admitted by Colorado's witness that if the gasoline operations were stepped up at the request of Westpan to produce more gasoline, the additional facilities would be chargeable wholly to the gasoline operations.

It also appears from the evidence that the dehydration unit serves to remove some liquids which are introduced into the gas stream during the course of its processing in the plants but all costs relating to dehydration were assigned entirely to dry gas. As we view the evidence some of the facilities which were assigned by Colorado to the joint gas and gasoline operations appear to be more properly assignable to the gasoline operations.[22]

From our examination of the record it is our conclusion that part of the operations of the gasoline plants should be treated as a joint operation. We, therefore, adopt for the purposes of this case, Colorado's point of split-off within the gasoline plant and the percentages used by it to determine the joint gas and gasoline costs, the direct dry gas costs, and the direct gasoline costs within the plants. We shall use, however, the gasoline plant costs heretofore found and determined by us to be the costs to be allocated. We also recognize that our adoption of Colorado's method may result in the assignment of more costs to the dry gas than may be proper but the record here does not include data for further refinement or adjustment.

Inasmuch as we find that the gasoline plant costs are in part joint costs, it becomes necessary to compute the market value of the raw gasoline at the point of split-off in the plants (at the conclusion of distillation process). Table below shows the derivation of the representative market values of dry gas and natural gasoline and the resulting percentages to be used in allocating the joint costs to dry gas and natural gasoline:

COLORADO INTERSTATE GAS COMPANY

COMPUTATION OF PERCENTAGES USED TO ALLOCATE JOINT GAS AND GASOLINE COSTS TO DRY GAS AND NATURAL GASOLINE

YEAR 1952

| | | Gasoline Plants | | |
|---|---|---|---|---|
| | Total | Bivins | Fourway | Fritch |
| *Value of Dry Gas* | | | | |
| Gas Output of Plants—M cu. ft. at 16.4 p.s.i.a. | 113,682,214 | 49,893,969 | 20,864,638 | 42,923,607 |
| Value of Dry Gas at 5¢ per M. cu. ft. | $5,684,110 | $2,494,698 | $1,043,232 | $2,146,180 |
| *Value of Gasoline* | | | | |
| Gross Revenue | $2,482,600 | $893,000 | $457,000 | $1,132,600 |
| Less: Cost to Make Marketable (Direct Gasoline Plant Costs) | 208,863 | 65,639 | 88,663 | 54,561 |
| *Value of Gasoline* | $2,273,737 | $827,361 | $368,337 | $1,078,039 |
| Total Value | $7,957,847 | $3,322,059 | $1,411,569 | $3,224,219 |
| Dry Gas Per Cent | | 75.095% | 73.906% | 66.564% |
| Gasoline Per cent | | 24.905% | 26.094% | 33.436% |

[22] For example, the "distillation unit" condenser and tank at the Bivins and Fourway plants appear to be only necessary for the recovery of gasoline.

The allocation percentages as determined above are then applied to the joint well mouth and gathering costs and to the joint gasoline plant costs as summarized in the table below for each of the three plants: [Table omitted.]

Thus, of the total well mouth and gathering cost, $2,805,920 is allocated to dry gas and $1,116,059 to natural gasoline. The joint gasoline plant costs are allocated $386,764 to dry gas and $150,435 to natural gasoline. The gasoline plant costs directly assigned to natural gasoline amount to $208,863. The total cost therefor applicable to the production, gathering, and processing of the liquid hydrocarbons owned by Westpan into finished gasoline is $1,475,357. The total revenue accruing to Colorado under the merger agreement for gasoline operations is estimated by it for 1952 to be $1,053,820. Therefore, from such operations there is a net loss or excess of cost over revenues of $421,537. Under the terms of the certificate which we issued to Colorado in Docket No. G–1326, *supra*, page 115, which terms and conditions were accepted by Colorado, this loss is not to be considered as a cost of service to Colorado Interstate's natural gas customers and consumers. Accordingly, we find and conclude that the loss of $421,537 shall not be considered as a part of the cost of service which we have heretofore determined.

In connection with our determination of the loss on gasoline operations it should be recognized that we are here adjusting the cost of service so as to remove the burden of such loss from the consumers as Colorado agreed should be done. We are not suggesting that Colorado set up cost accounting procedures for the purpose of currently segregating its costs on the basis of our decision as such appears to be entirely unnecessary.

*Summary of Cost of Service*

Based upon the foregoing and the record before us we find the total overall cost of service is $14,952,567 as follows:

| | |
|---|---|
| Operating Expenses | $7,471,964 |
| Depreciation and Depletion | 2,595,427 |
| Taxes Other than Federal Income | 1,840,797[23] |
| Federal Income Taxes | 185,599 |
| Return at 5¾% | 3,280,317 |
| Loss on Gasoline Operations | (421,537) |
| Total Cost of Service | $14,952,567 |

*Classification and Allocation of Cost of Service*

[11] One of the more important issues of this proceeding is the apportionment of the total cost of service between jurisdictional and nonjurisdictional sales. Both the staff and the company used the method of first classifying costs into demand and commodity classifications[24] and then allocating such classified costs among the various classes of customers. Both the staff and Colorado functionalized the cost of service into production,[25] transmission, and distribution, func-

[23] We note from the press that a district court of the state of Texas has held unconstitutional the Texas Gathering Tax but that an appeal may be taken. The above amount of $1,840,797 includes the estimated Texas gathering tax for the year 1952 in the amount of $573,332. Colorado is currently paying such tax under protest. It does not appear to us that we can make an adjustment therefor at this time, on the basis of these reports, but if Colorado is relieved from paying such tax we shall require a further rate reduction.

[24] The staff classified distribution costs between commodity and customer costs, rather than between demand and commodity. Colorado Interstate classified distribution costs between demand and commodity.

[25] Includes products extraction.

tions. The only significant difference in method between Colorado and the staff in this respect relates to the assignment of Federal income taxes to functions. The staff assigned the total Federal income tax between functions on the ratio that the return calculated for each function bears to the total return. Colorado's method resulted in the assignment to the Panhandle field segment of the production function of a negative income tax which was utilized by Colorado as reducing the actual cost of the production functions. This is an unrealistic result. For the purpose of this case, therefore, we use the method recommended by the staff.

[12] The staff classified all production costs as a commodity cost. Colorado has assigned certain production costs or parts thereof, to demand on the theory that such costs do not vary with the volumes of gas produced. We find no justification in the record for treating these particular costs differently from the other production costs which Colorado admits should be classified to commodity. In Re Northern Nat. Gas Co. (1952) Opinion No. 228, 95 PUR NS 289, 305, where contentions similar to those made by Colorado were advanced, we held that production costs are so intimately associated with the volumes of gas produced that they are properly classified as commodity costs.

The staff classified transmission costs between demand and commodity based on behavior of cost studies and judgment. Supervision and engineering, and administrative and general expenses were classified between demand and commodity on the ratios developed from all other supervised expenditures, exclusive of compressor station fuel. Colorado assigned 100 per cent of supervision and engineering to demand on the ground that such costs were dependent solely upon the size and location of the plant and had no relation to the volume of gas sold. Of administrative and general expense, it assigned about 91.5 per cent to demand and 8.5 per cent to commodity, on the ground that most of such expenses do not vary with the volumes of gas transported and sold. Even if the salaries of officers of the company and supervisors are fixed, and even though all the time of such officials is not spent in direct contact with the employees of the company, we find that the only reasonable and equitable basis of spreading these costs is in proportion to the supervised expenditures. In this way, these costs are correlated in proportion to the dollar amounts of the supervised expenditures exclusive of compressor station fuel, which are made to carry on the business of the company and to earn revenues. And as we shall discuss in a moment, we do not adhere to the view that all fixed costs are ipso facto translated into the demand classification.

Compressor station labor, compressor station supplies and expenses (which includes compressor station fuel), and maintenance of compressor station equipment were classified by the staff entirely to commodity. Colorado assigned compressor station labor 50 per cent to demand and 50 per cent to commodity; compressor station supplies and expenses, including compressor station fuel, 100 per cent to commodity; and maintenance of compressor station equipment, 100 per cent to commodity.

We have recently had occasion to

review the problem of classifying costs for purpose of making a fair and equitable allocation of total costs between jurisdictional and nonjurisdictional business. Re Atlantic Seaboard Corp. (1952) Opinion No. 225, 94 PUR NS 235; Re Northern Nat. Gas Co. *supra*. We there held that all constant costs are not thereby translated into demand costs; that the determination of how much of the constant costs shall be apportioned between demand and commodity cannot be measured by the slide rule or mathematical formula; that such determination rests necessarily solely and entirely on judgment.

[13] We found that in classifying compressor station labor, such costs partake of certain fixed characteristics, but both the capacity of a pipeline and its annual use are important cost incidences. We reach the same conclusion here. It is our judgment that compressor station labor should be classified equally between demand and commodity. As to the other two items, compressor station supplies and expenses, including fuel, and maintenance of compressor station equipment, as to which there is no dispute between staff and Colorado in classifying such costs as 100 per cent to commodity, we find that this is the proper classification for these two items.

"Other operating expenses" and "other maintenance expenses" were classified by the staff on the basis of 50 per cent to demand and 50 per cent to commodity. Colorado treats some of the items in these groups as 100 per cent demand on the ground that after analysis of some of these items, Colorado's witness concluded such costs were fixed and therefore should be classified as demand costs. Even if we were to agree with the subsidiary facts, we are not necessarily bound to reach the same conclusion that such items are fixed costs. For instance, Colorado's witnesses stated that the item "Other Operation Labor" represents the labor cost of operating dehydration plants. From this he reached the conclusion that such an expense was not related to the volume of gas transported. We reach a different and contrary conclusion. In our judgment we find such costs related to the volume of gas purchased and produced. Similarly Colorado's witness classified the cost labeled "transmission maps and records" as a demand cost—as not varying with the volumes of gas transported and sold.

But, whether we would or would not agree in every instance as to the few items analyzed by Colorado is not controlling with respect to the allocation of such constant costs. Colorado has treated all constant costs as demand costs, but this treatment assumes that classification of an item as a constant cost means that it is assignable 100 per cent to demand. With this we cannot agree. As we stated in Atlantic Seaboard Case, *supra*, 94 PUR NS at p. 246, and repeated in the Northern Natural opinion, *supra*,

". . . A pipeline would not normally be built to supply peak service, that is to say, service on the peak days only. We know from our administration of § 7 of the Natural Gas Act, 15 USCA § 717f, which involves the issuance of certificates of public convenience and necessity, that pipelines are built to supply service not only on the few peak days but on all days throughout the year. In proving the

economic feasibility of the project in certificate proceedings, reliance is placed upon the annual as well as the peak deliveries. Stated another way, the capital outlay for the pipeline facility is made—and justified—not only for service on the peak days but for service throughout the year. Both capacity and annual use are important considerations in the conception of the project and in the issuance of certificates of public convenience and necessity. Both capacity and volume, therefore, are what are known as cost factors or incidences in respect to the capital outlay for a pipeline project. It follows that reasonably accurate results can be achieved only by allocating the fixed expenses flowing from the capital outlay to both operating functions, viz., capacity and volume."

Thus, even if all such costs included in "Other Operating Expenses" and "Other Maintenance Expenses" are considered fixed, we find for these reasons and upon the record in this proceeding, that such cost should be classified 50 per cent to demand and 50 per cent to commodity. The staff has so treated these expenses and we adopt such classification.

**[14–16]** The staff witness classified depreciation, taxes, and return equally between demand and commodity. Colorado classified all depreciation as a demand cost; other taxes except for state and Federal income taxes and payroll taxes were classified as 100 per cent demand. State and Federal income taxes were classified 50–50, and return 50–50. We have referred in the Atlantic Seaboard and Northern Natural opinions, *supra,* to the fact that depreciation and return are related items. No useful purpose would be served in repeating here all that was said in those opinions. We find that there are no facts here warranting any departure from the principles announced by us on this matter. Demand and volume are important cost incidents in depreciation. We believe they should be given equal weighing in its classifications and we accordingly classify it 50–50. As to taxes, other than income taxes, we find that the property tax which is the largest item may be considered as a fixed cost and treated like depreciation and return.

Colorado classified income taxes and return 50–50. The reason given was that the cost of Colorado's funded debt was approximately 50 per cent of Colorado's claimed 6½ per cent rate of return and therefore 50 per cent of the return was a fixed cost and the remainder was a variable cost. We find that return, like depreciation, is a fixed cost and, because demand and commodity functions are important considerations, we shall classify return and income taxes (associated with the return) equally between demand and commodity.

**[17, 18]** In transmission costs, there is included the costs for dehydrating the gas. The staff classified all dehydration costs, including taxes, depreciation, and return, as 100 per cent commodity on the ground that dehydration followed production and was directly proportional to the volume of gas processed. Colorado treated dehydration as it did its "other operating expenses." We find and conclude that dehydration costs are directly related to the volume of gas processed and should be classified 100 per cent to commodity.

Distribution costs are less than 2

per cent of the total cost of service. We find that the staff's method of classifying distribution costs 50 per cent to commodity and 50 per cent to customers on the basis of metering units is more reasonable and accurate than Colorado's demand-commodity classification.

[19, 20] In allocating the costs classified between demand and commodity, the staff allocated demand costs to classes of customers on the basis of the estimated normal peak day in 1952. Colorado estimated its 1952 revenues on the basis of a normal peak day. The staff has accepted such revenue estimates, and accordingly used the peak day on which Colorado estimated its revenues. Colorado allocated its demand costs on the basis of the actual system peak day sustained in the 1951–1952 season; to wit, February 24, 1952.

It was admitted by Colorado that all of the facilities, the costs of which are included in the cost of service studies of both staff and the company, were not in service on February 24, 1952. Further, the revenue estimates were based on all these additional facilities being in operation. We conclude under the facts here, that the normal peak day for 1952 is the more reliable measure for allocating the demand costs. As a practical matter the percentage of jurisdictional sales on the peak day used by the staff is 90 per cent and nonjurisdictional is 10 per cent. On Colorado's peak day the jurisdictional is 90.39 per cent and the nonjurisdictional is 9.61 per cent, so that in effect the difference is de minimus.[26]

In allocating demand costs, the staff allocated such costs among the transmission pipeline customers. Colorado allocated its demand costs among all its customers, including sales made at the well mouth and in the field, on the ground that it classified production costs into demand and commodity. Since we have classified all production costs as commodity costs, it is only reasonable and proper that transmission line costs should be allocated to transmission line sales.

Colorado did not assign any of the Hugoton and Loveland field costs against its customer the Amarillo Oil Company. The staff pooled all production costs and spread such costs among all customers, including Amarillo Oil Company. Colorado excludes Amarillo Oil Company from all pooled production costs on the ground that Colorado, and its predecessor Canadian River, have a cost contract based on production in the Panhandle field. In spreading costs, all customers must share pro rata in the total costs. All customers, including Amarillo Oil Company, receive benefits from all the operations of the company. Amarillo Oil Company receives a benefit from Colorado's gas purchases in the Hugoton and Loveland fields to the extent that such purchases reduce the volumes which otherwise would be required to be produced by Colorado in the Panhandle field. We do not find that the cost contract between Colorado and Amarillo Oil Company is of such a nature as to derogate from the general practice of pooling all costs and assigning them pro rata against all customers.[27]

[26] Excludes sales to Dalhart Gas Company.

[27] Re Northern Nat. Gas. Co. (1952) Opinion No. 228, 95 PUR NS 289, 312.

In spreading its costs, Colorado has listed the sales to Colorado Springs, city of Trinidad, and Public Service Company of Colorado for power plant use as a "direct sale." At the time of the hearing, no sales were being made to the city of Trinidad for power plant use. Colorado admitted that the volumes it listed as sold to Colorado Springs as a direct sale were being sold under Rate Schedule I–1 on file with the Commission as a rate schedule covering sales for resale for industrial use. Additionally, sales under the I–1 Rate Schedule are available only to those who purchase gas under the G–1 Rate Schedule, which is the sale for resale for general use. Colorado also admitted that the volumes it listed as a direct sale to Public Service Company for power plant uses were sold under Rate Schedule G–1, a rate schedule on file with the Commission covering sales for resale for domestic, commercial, and industrial consumption. It estimated the amount to be used by Public Service in its power plant based on advice furnished to Colorado by Public Service in 1948. The staff considered all sales under the I–1 and G–1 Rate Schedules as sales for resale and therefore jurisdictional. Revenue estimates of sales to Public Service and Colorado Springs for boiler fuel use were based on rates in existing rate schedules. Colorado did not include such sales as jurisdictional. We conclude that on this record such sales should be included with the jurisdictional business.

There is nothing inconsistent here with Colorado Interstate Gas Co. v. Federal Power Commission (CA3d 1950) 87 PUR NS 343, 185 F2d 357. That case simply decided that a rate schedule could be filed if stated in the terms of the statute that it was applicable only to sales for resale. Admittedly, all the sales to Colorado Springs and to Public Service Company are made pursuant to rate schedules on file with the Commission applicable to sales for resale.

The following tables show our findings and conclusions as to the classification of the cost of service and the allocation thereof among the various classes of customers: [Tables omitted.]

Utilizing the Demand and Commodity costs herein allocated to Sales to Other Utilities—Jurisdictional and the billing units applicable to such sales, we obtain the following rate structure:

Rate Schedules G–1 and G–2
Demand Charge: 81¢ per M cu. ft.
Commodity Charge: 8.5¢ per M cu. ft.

Rate Schedule G–1 adopted by Colorado from Canadian River
14.5¢ per M cu. ft.

Rate Schedule P–1
17.5¢ per thousand cubic feet for the first 5 days' use of the billing demand
8.5¢ per thousand cubic feet for all additional gas

Rate Schedule I–1 (not including that adopted by Colorado)
11¢ per M cu. ft.

Rate Schedule I–2 (including Rate Schedule I–1 adopted by Colorado)
9¢ per M cu. ft.

Such rate structure, which we find to be just and reasonable, will result in revenues for the test year of $10,289,269, as compared with the allocated cost of service of $10,273,474 for

gas estimated to be sold under the above rate schedules in 1952.

[21] The allocation of the cost of service indicates that the existing rate for sales to Natural Gas Pipeline Company does not cover the cost of service for that sale. The sale to Natural Gas Pipeline Company is made pursuant to Rate Schedule S–2, applicable only to that sale. Estimated revenues under the existing rate do not meet the cost of service for this sale by $380,661. We have already held that, under § 5(a) of the Natural Gas Act, 15 USCA § 717d(a), we are not permitted to order an increase in the rates to one customer in a rate proceeding, even though the effect of our order is to produce lesser total over-all revenues. Re Atlantic Seaboard Corp. (1952) Opinion No. 225, 94 PUR NS 235, 256. We shall require by order that Colorado shall file rate schedules which shall effect the reduction heretofore found to be due to customers other than Natural Gas Pipeline Company.

For the same reason we cannot increase the rate applicable to Clayton Gas Company from the present rate of 14.5¢ per thousand cubic feet to the rate being prescribed herein for Rate Schedule G–1. Furthermore, the rate being prescribed in Rate Schedule G–2 for the city of Trinidad sale is the same as that being established for Rate Schedule G–1, thus continuing the present rate pattern. While service to Trinidad is not at city-gate, but at the end of a buyer-owned lateral, we cannot say on this record to what extent this factor should be taken into account. No issue with respect thereto was raised at the hearing.

In so far as the sales to Natural Gas Pipeline Company and Clayton Gas Company are concerned Colorado will have to take the initiative under § 4 of the act, 15 USCA § 717c, in proposing rates which are not unjust, unreasonable, unduly discriminatory, or preferential.

On November 2, 1951, Colorado filed a motion for a finding that the staff had failed to meet the burden of proof on the ground that staff's presentation up to the time of the filing of the motion consisted of evidence based on the operations of the company for the year ending June 30, 1951, which did not include the additional facilities proposed to be placed in operation during 1952. Thereafter, both the staff and the company introduced evidence on the company's operations for 1952 including the additional facilities. Indeed, the year 1952 has been used as the test year. It is appropriate therefore to deny Colorado's motion.

On November 15, 1951, Colorado filed a second motion for a finding that staff had failed to sustain the burden of proof. Colorado reserved the right to cross-examine staff's witnesses and introduce its own evidence. By order of November 30, 1951, we reserved decision on the motion until the matter was before us for final decision. In view of our findings heretofore made, and our order thereon, it is appropriate to deny this motion filed by Colorado.

The Commission further finds:

(1) The rates and charges made, demanded, and received by Colorado Interstate Gas Company for or in connection with its transportation and sale of natural gas subject to the jurisdiction of the Commission under its Rate Schedules G–1, G–2, P–1,

I-1, and I-2, as they appear in its FPC Gas Tariff, Original Volume No. 1, and under Rate Schedules G-1 and I-1, as they appear in the FPC Gas Tariff, Original Volume No. 1, of Canadian River Gas Company, which Colorado has adopted, are unjust, unreasonable, and excessive in the sum of $3,111,187 based upon the test year 1952.

(2) The rates and charges of Colorado Interstate Gas Company for or in connection with its transportation and sale of natural gas subject to the jurisdiction of the Commission described in (1) above after reflecting a reduction of $3,111,187 as hereinafter provided and ordered will be just and reasonable.

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*MICHIGAN PUBLIC SERVICE COMMISSION*

# Re Edison Sault Electric Company

D-2962-52.2
July 21, 1952

APPLICATION *by electric company for authority to modify its regulations; approved.*

*Service, § 146 — Government priority — Electricity.*

An electric utility was authorized to incorporate in its regulations a provision that all energy is sold subject to the prior claim of the United States Government.

By the COMMISSION:

*Electric Rules and Regulations*

On June 26, 1952, Edison Sault Electric Company filed an application for authority to modify its Standard Rules and Regulations, incorporated in its presently filed Schedule of Rates M.P.S.C. No. 3.

Applicant's presently filed Standard Rules and Regulations, Rule No. 9 (b) Restrictions, incorporates a provision establishing the priority claim of the United States Government for services in case of accident to the St. Mary's Falls canal, also certain prohibitions as to the use of unrestricted water-heating service and connection of appliances other than electric ranges, that impose loads of 3 kilowatts or more except for off-peak restricted service, on applicant's system. Said prohibitions were necessitated by the limitations of applicant's supply of electrical energy.

Applicant represents that the new United States Government hydroelectric plant is now in operation, and an augmented supply of electrical energy is now available, and accordingly authority is requested to modify said restrictions.

Applicant proposes to modify its Rule No. 9 (b) Restrictions, whereby the clause, establishing the priority of the United States Government for

service in event of accident to the St. Mary's Falls canal, be modified to read as follows:

"Also all electric energy is sold subject to the prior claim of the United States Government for service."

Further modification is proposed in its Rule No. 9(b) Restrictions, providing for the cancellation of the two restriction clauses which are as follows:

"Due to unusual increase in system peaks, the company will be unable to take on any unrestricted water-heating loads after November 13, 1947, until additional generating facilities are available.

"Due to continually increasing system peaks and no increase in generating facilities, the company will be unable to take on any clothes dryers or any other appliances, excepting stoves, using 3 kilowatts or more, after November 1, 1949, except for off-peak restricted service, until additional generating facilities are available."

The Commission having carefully considered the matter before it and being advised in the premises finds that Edison Sault Electric Company's application for authority to change its presently filed Rules and Regulations by modification of the aforementioned clauses, should be approved.

It is therefore *ordered* that Edison Sault Electric Company shall file with this Commission Third Revised Sheet 4 A–1, that conforms substantially with the proposed rate sheet attached to the application, which sheet, among other things, sets forth Rule No. 9 (b) Restrictions, as follows:

"Where restricted water-heating service is included under any rate such service shall be available for a maximum of thirteen hours per day during periods to be determined by the company. These periods will be subject to change when demands on the company's system make revision necessary. No water heater requiring more than 3 kilowatts shall be connected without the written consent of the company.

"Also all electric energy is sold subject to the prior claim of the United States Government for service."

It is *further ordered* that the approval herein given is without prejudice to the power of this Commission at any time on its own motion or on petition of any interested party to inquire into and investigate the rates, charges, practices, and services hereby approved.

The Commission retains jurisdiction of the matters herein contained and reserves the right to issue such further order, or orders, as the circumstances may require.

# Industrial Progress

*A digest of information on new construction by privately managed utilities; similar information relating to government owned utilities; news concerning products, supplies and services offered by manufacturers; also notices of changes in personnel.*

## Alabama Power to Expand Gorgas Facilities

ALABAMA POWER COMPANY plans to build another major generating plant at or near the site of its present steam plants at Gorgas, Alabama.

Thomas W. Martin, Chairman of the Board, stated the new plant will have a General Electric generating unit with a capacity of 150,000 kilowatts and will be laid out for an ultimate capacity of three or four additional units. When the first of these is completed, probably in 1955, the generating capacity at Gorgas will be 470,000 kilowatts. The first unit will cost approximately $25,000,000.

## Ebasco Appointments

T. C. WESCOTT, president of Ebasco Services Incorporated, recently announced that F. C. Gardner has been elected executive vice president of the engineering, construction and business consulting firm. In addition, K. W. Reece has been elected vice president in charge of engineering and construction, and W. H. Colquhoun has been made engineering manager of the company.

## Connecticut Lt. & Pwr. Plans $65,000,000 Program

THE CONNECTICUT LIGHT AND POWER COMPANY has increased its generating capacity by 220,000 kilowatts or 93 per cent since the end of World War II. However, electric usage by customers has increased so greatly over the same period that the company is undertaking a new, large-scale expansion program which between now and 1956 will add more than 200,000 kilowatts in new generating capacity. Cost of this new generating capacity and related transmission facilities is estimated at $65,000,000.

## New Exide-Manchex Batteries Offer Greater Economies

GREATER economies resulting from lower initial cost, increased efficiency and long, trouble-free life are among the outstanding advantages claimed for the new series of Exide-Manchex batteries in transparent plastic containers announced by The Electric Storage Battery Company.

Known as Type CME, they are available in both two-cell and three-cell units built to meet the most rigorous service demands in stationary small power applications.

In designing the CME line, Exide engineers have succeeded not only in reducing weight per ampere-hour output but also in decreasing overall size of the units, thus making possible appreciable savings in installation space.

Other user benefits attributed to the new batteries are unsurpassed dependability for the most vital applications, low operating and maintenance costs, greater watt output per unit of space, highly sustained, useful voltage even during heavy discharge, greater damage resistance through the use of plastic containers and covers, improved flexibility of arrangement without the use of wood trays, fewer cleaning problems, and availability as "dry" batteries when required.

Detailed information on the Type CME Exide-Manchex is available in a two-color 8-page illustrated booklet punched for convenient insertion into standard 8½ x 11 three-ring binders. An accompanying data sheet and chart shows dimensions, weights, capacities and discharge characteristics. Both may be obtained by writing The Electric Storage Battery Company, Box 8109, Philadelphia 1, Pa.

## EEI Distributes Brochure On New MPA Award

THE Committee on Prize Awards of the Edison Electric Institute has announced the distribution to all member companies of a descriptive brochure on the new "More Power to America Award."

The award, sponsored by the General Electric Company, will be made to the electric utility companies that do the most to foster industrial electrification during 1952 and in each succeeding year. It is designed to "increase the productivity of American industry by encouraging creative, broad-scale industrial electrification activity among America's electric utility operating companies, and to bring recognition to the companies and individuals making the greatest advancement in this field each year."

The first award will be made by EEI at its 19th Annual Sales Conference in Chicago, April 1, 1953. All operating electric light and power companies in the United States and its

(*Continued on page 26*)

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possessions are eligible. Awards will be conferred in duplicate: one in Division A, for those companies with 250,000 total meters or more; and one in Division B for those with less than 250,000 total meters.

In each Division a plaque will be given to the company which has done the most to further industrial electrification, and $250 to the responsible individual.

## Washington Water Power to Receive Ebasco Gold Award

THE Washington Water Power Company will receive this year's Ebasco Gold Award given annually to the Ebasco Services Incorporated client company showing the greatest reduction in accident frequency below the national average for the electric utility industry during the past year, G. G. Walker, president of Electric Bond and Share Company, announced recently at the 14th annual safety meeting of Ebasco.

The Gold Plaque will go to the Washington Water Power Company for an injury index 80.88 per cent below the national average, Mr. Walker said. Mississippi Power & Light Company, which took top honors last year, will receive the Silver Plaque for an injury index 76.63 per cent below the national average. Certificates will be given to the following organizations for injury indexes more than 25 per cent below the national average for their respective industries: United Gas Corporation, West Tennessee Gas Company, Mississippi Valley Gas Company, and Arkansas Power & Light Company. All awards will be presented formally in New York on December 1st.

## Leece-Neville Adds New Plant

THE second expansion in two years is being made by the Leece-Neville Company, according to an announcement by P. H. Neville, president of the Cleveland, Ohio, automotive electrical manufacturer.

Involved are some 18,000 sq. ft. of new manufacturing space which will be used for production of generators, in connection with ordnance, and motors for aircraft applications. Current production of this equipment, which has been carried on at Leece-Neville's main plant, will be sharply increased in the new location. The additional space being made available at Leece-Neville's main plant is needed for the company's increased volume of business in its regular line.

Leece-Neville has been known for over forty-three years as a pioneer and leader in the design and manufacture of heavy-duty and special automotive electric equipment. The company produces starting motors, generators, regulators and switches for trucks, busses, off-highway and similar applications. In 1946, Leece-Neville introduced the revolutionary AC-DC alternator system, which produces alternating current and rectifies it with a dry-plate

(*Continued on page* 28)

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rectifier. The L-N Alternator is widely used for mobile radio power supply as well as for high current requirements on any vehicle.

## R-R Booklet Sets Forth Ways to Cut Payroll Costs

A NEW plan to cut payroll costs and speed completion of paychecks by mechanized accounting methods is the subject of a booklet entitled "The Fastest Known Way to Produce Paychecks," just released by Remington Rand Inc.

The plan is distinguished by two basic elements:

1. Simplified handling of a compact, new statement-check with the automatic shuttle carriage on the Remington Accounting Machine.

2. Simplified handling of the employees earnings record which is no longer posted while paychecks are written but are completed with pre-payroll computations.

The stub-check payroll system offers speed, economy and simplicity of operation, and pays for itself by savings in check forms alone.

For a free copy of the booklet No. AB569, write Remington Rand Inc., 315 Fourth avenue, New York, New York.

## Microwave Services Formed

THE formation of Microwave Services, Inc. was announced recently by Sidney K. Wolf, president. The corporation will provide complete engineering services including system analysis, specifications, purchasing, installation and supervision of plant facilities and provide management services in the operation of all types of tele-communication systems. These services will fit the needs of industry and government on a world-wide basis and will include such varied fields as petroleum, public utility, railroad, airline, telephone, broadcasting and all phases of the national, state and city governments.

The corporation will be headed by Dr. S. J. Begun, chairman of the board; S. K. Wolf, president; Emile Labin, vice president; and Victor J. Nexon, vice president and treasurer. All of whom will be on the Board of Directors, which will also include Max Delson, and F. Vinton Long.

## Central Pwr. & Lt. Enlarges Victoria Plant

CENTRAL POWER AND LIGHT COMPANY, Corpus Christi, Texas, has completed a $4,500,000 addition to its Victoria power station, thus substantially increasing the electric power supply available to South Texas.

The Victoria plant addition has a net production capability of 33,000 kilowatts. Altogether the Victoria power station can now make 43,100 kilowatts of electricity available to CPL customers, or about 57,370 horsepower. This is enough power to meet the needs of five cities the present size of Victoria, Lon C. Hill, CPL president, reported. The power not used locally is delivered to other parts of South Texas over high-voltage transmission lines.

The total power supply now available to South Texas through the Central Power and Light Company system amounts to 305,100 kilowatts, or 2¾ times the supply available five years ago. Although the supply is well above the maximum demand to date, further expansion is in progress in anticipation of continuing economic growth throughout the area served by CPL.

## Relays for Industry

A COMPLETE line of telephone-type relays, including hermetically sealed (in metal and glass containers) sub-miniature, plug-in types, etc., is described in a new, color-illustrated brochure (No. 1702-A) released by Automatic Electric Co., 1033 W. Van Buren street, Chicago 7, Illinois.

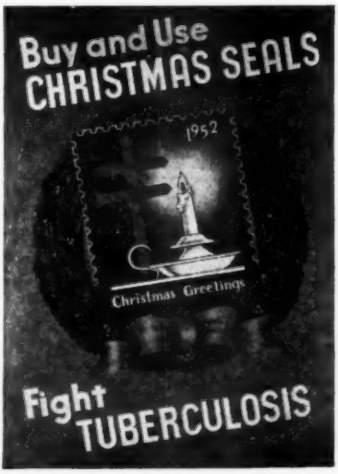
## IBM Appointment

INTERNATIONAL BUSINESS MACHINES CORPORATION recently announced the appointment of Roger M. Bury as sales promotion manager. He previously was an assistant sales manager of the electric accounting machine division at the company's World Headquarters in New York city.

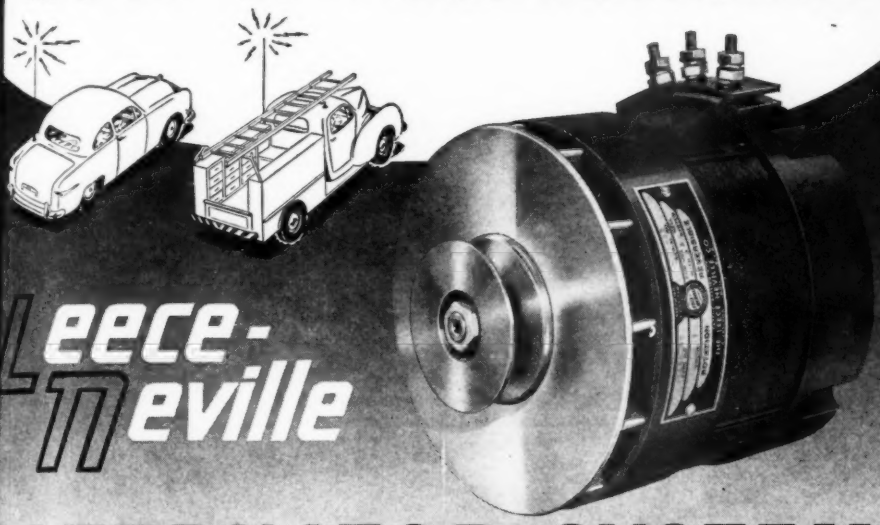
## N. Y. Belting Issues Booklet On "Indestructible" Plastics

NEW YORK BELTING & PACKING COMPANY has issued a booklet describing its "Indestructible" plastic, which is available as pipe moldings, extrusions, or fabrications.

According to the manufacturer, "Indestructible" plastic products are now being used successfully, in many industries, including electrical, mining, and gas and fuel. The new booklet may be obtained from the company at 1 Market street, Passaic, New Jersey.



# OVER 6 YEARS
# PROOF OF PERFORMANCE



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Since 1946 Leece-Neville AC-DC Alternator Systems have been delivering unmatched performance. On 2-way radio cars and trucks... or wherever current demands are high, L-N Alternators give:

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There are L-N Alternator Systems rated at 50 amps and 80 amps for 6-volt systems; 60 to 150 amps for 12-volt systems.

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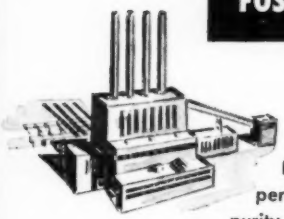
# *From the pioneering development in Superheaters to the*

**the trend in modern steam generator design**

**places the spotlight on . . .**

## FOSTER WHEELER combination radiant and convecti



Today's central station calls for larger unit sizes of turbines and boile higher steam pressures and temperatures—and optimum quality and performance. To provide steam in the quantity, pressure, temperature a purity demanded, increased emphasis falls upon the design and function superheaters and reheaters. Their integration with other components of equipment and plant requires the high degree of skill and experience that comes only with years of leadership in the field.

Foster Wheeler's pioneering effort in steam generator design, as reflected in the following record of achievement, has led the way for every major development in the reheat cycle.

**1902** — Superheated steam introduced commercially in the United States.

**1904** — Convection superheaters standardized with cast iron extended surface rings applied to steel tubes. Bare tubes were later used with improved design technique and improved metal selection.

**1919** — Radiant superheaters developed after long research and experimentation.

**1924** — Water walls and water backs applied to many types of furnaces burning various fuels.

**1926** — Radiant reheaters and radiant superheaters installed in one of the first large high pressure reheat units in the country.

**1946** — First large steam generator installed in a central station to operate over a wide load range at 1000 F final steam temperature.

As a result of this 50 years' background of experience and leadership, each new steam generator can be depended upon to have Foster Wheeler's integrated quality and performance

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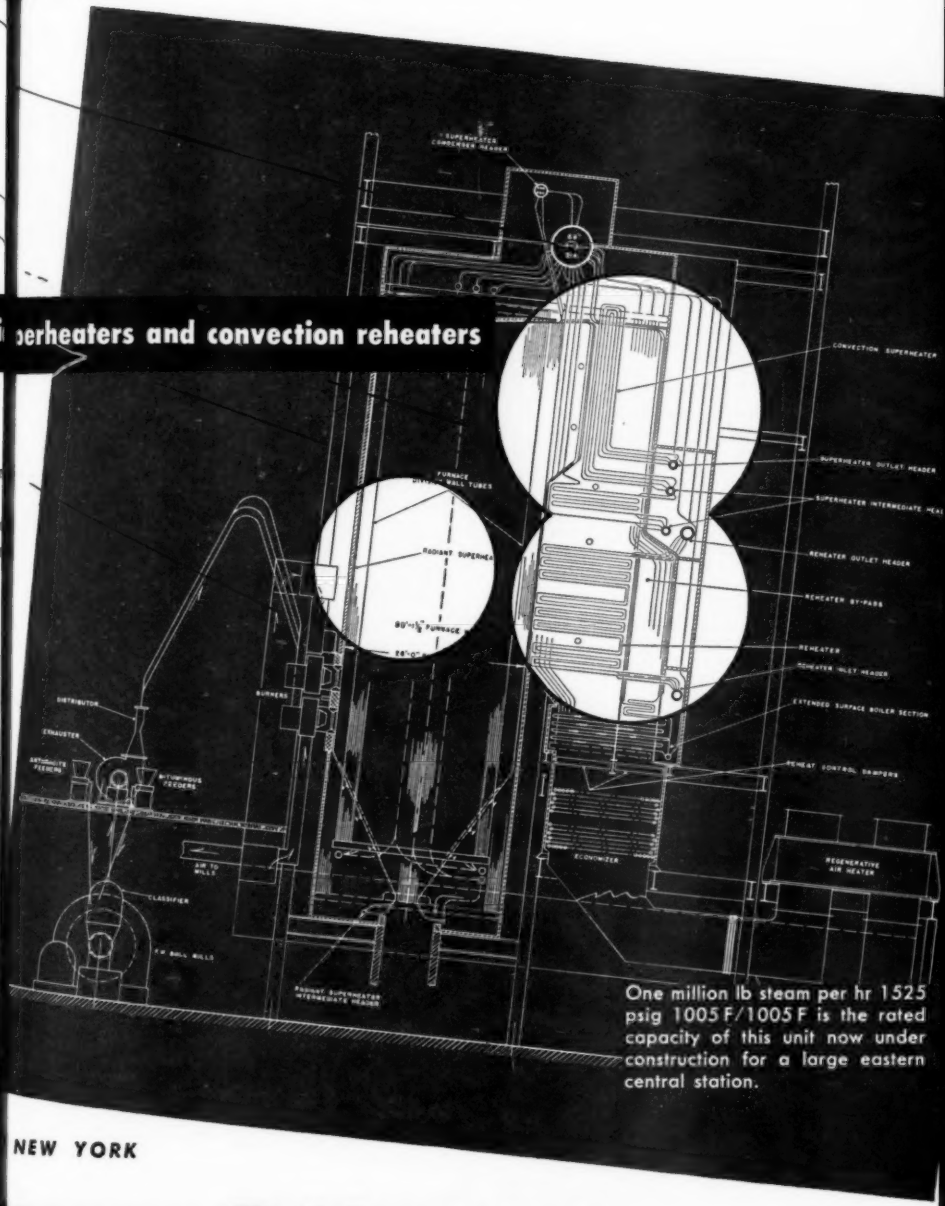
# complete reheat cycle

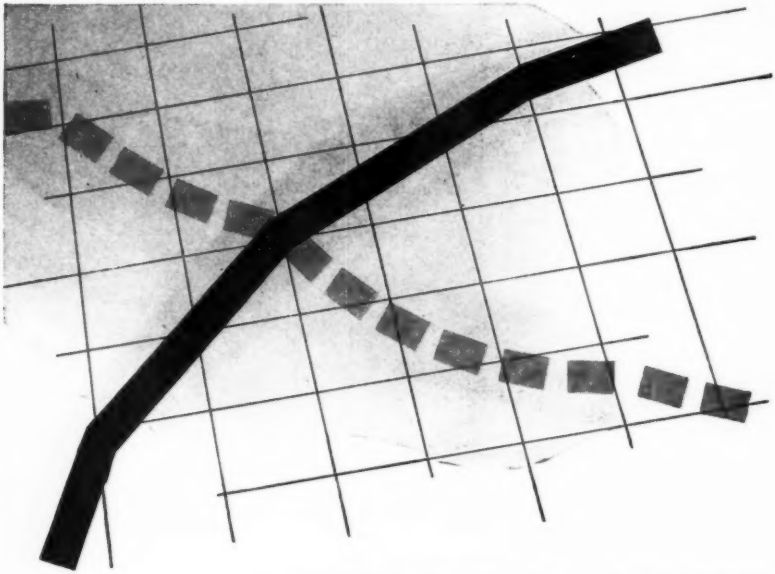
## erheaters and convection reheaters




One million lb steam per hr 1525 psig 1005 F/1005 F is the rated capacity of this unit now under construction for a large eastern central station.

NEW YORK

OSTER WHEELER



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Dependability is a big red MUST with Dodge. You'll find it in such features as moistureproof ignition system, high-torque capacity starting motors, positive-pressure lubrication system.

You'll get long life, too, thanks to deep, broad-shouldered frames, shot-peened rear axle shafts, extra-long alloy steel springs.

What's more, Dodge offers a wide range of engines with 4-ring pistons, chrome-plated top rings, exhaust valve seat inserts . . . ease of handling due to short wheelbase and wide front tread . . . real driver comfort from chair-height seats, greater visibility, big positive brakes.

There's a Dodge *"Job-Rated"* truck to meet your needs. See your friendly Dodge dealer today.

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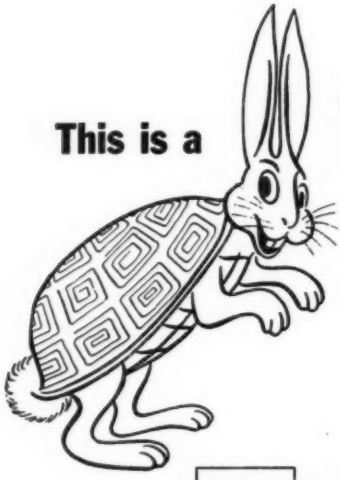

....obviously, a combination of tortoise and hare and also a good example of how Sorg works. We have to be *fast* and we have to be *thorough* because our clients must have quality, whatever the deadline.

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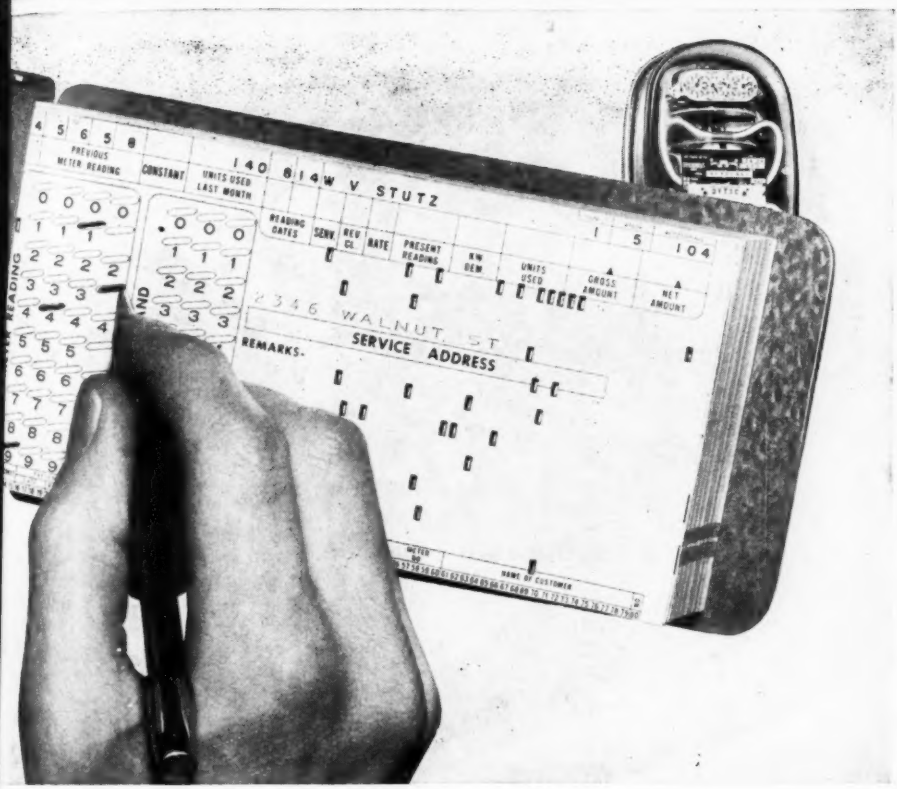


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Simply by making several short pencil marks on the face of this IBM Card, the meter reader is spared the trouble and inconvenience of having to subtract and make longhand entries.

No longer does the Accounting Department complain about his arithmetic or the legibility of his handwriting. And no longer is there a possibility of transcription errors, because IBM electronic and electric machines take over where the meter reader leaves off—speeding the job from start to finish.

This is just one of the many IBM contributions to utility accounting. Write Dept. D for a copy of the 1952 edition of IBM Customer Accounting for Utilities.

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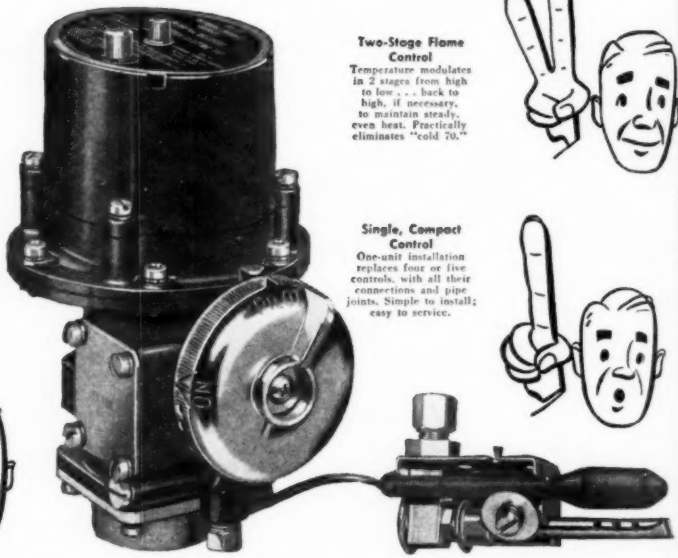
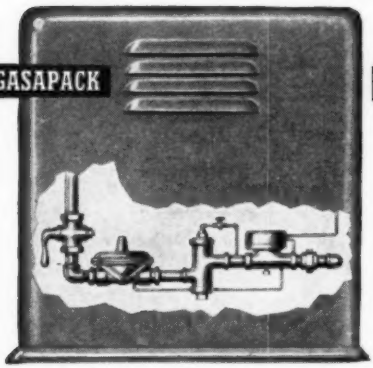


**Two-Stage Flame Control**
Temperature modulates in 2 stages from high to low . . . back to high, if necessary, to maintain steady, even heat. Practically eliminates "cold 70."

**Single, Compact Control**
One-unit installation replaces four or five controls, with all their connections and pipe joints. Simple to install; easy to service.



**See the difference . . . in simplicity . . . in space-saving**



Want satisfied gas appliance customers? Make sure every gas-heater installation is made with the revolutionary Gasapack. This simple, compact control eliminates old-fashioned hookups. Builds customer good will. Provides completely silent, safe, dependable operation.

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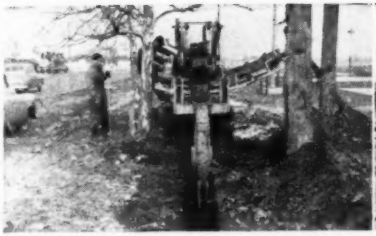

*The Baby Digger moves right along on this main extension in spite of tight quarters and tough frost.*

*100% machine digging on this house service with a compact, maneuverable* CLEVELAND *Baby Digger.*

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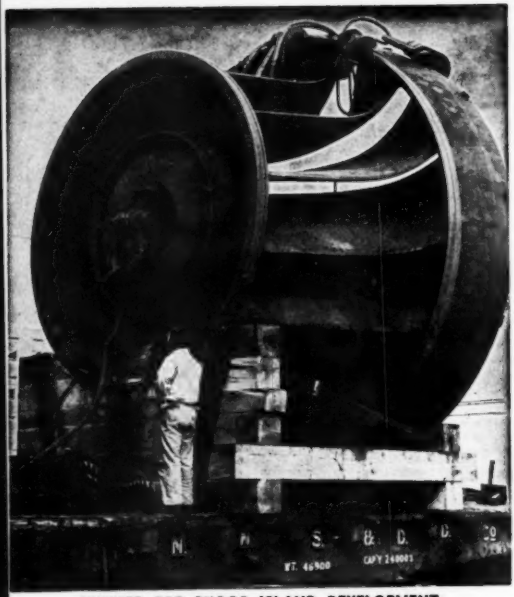
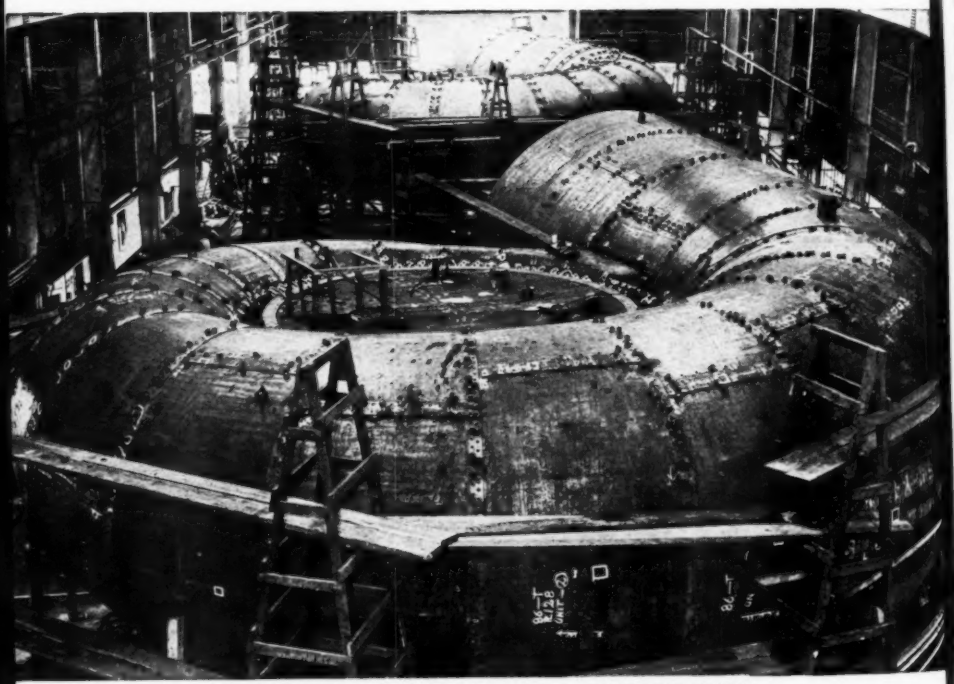


RUNNER FOR BUGGS ISLAND DEVELOPMENT

# OVER EIGHT MILLION HORSEPOWER

The Newport News Shipbuilding and Dry Dock Company has received orders for the building of hydraulic turbines aggregating output of 8,150,000 horsepower.



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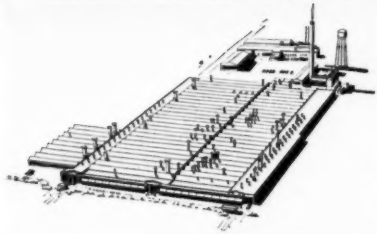

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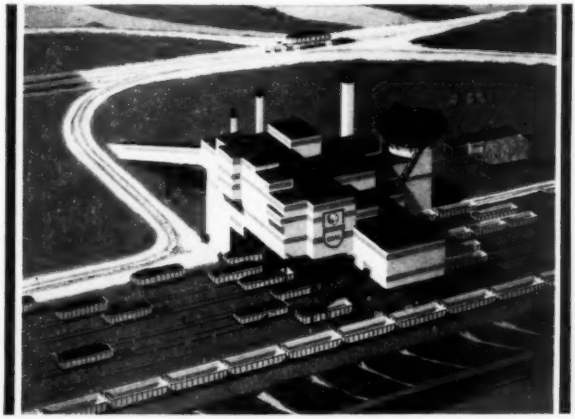

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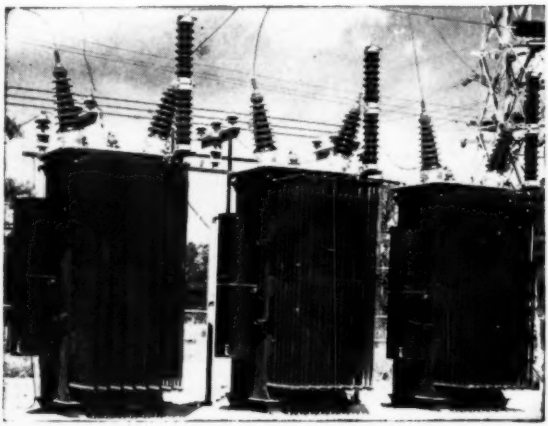

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